

Number skills **four**



Alan Brighthouse / David Godber / Peter Patilla



A 372.7 BRI

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National STEM Centre



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This Number Skills book offers an opportunity for further practice in the processes and skills developed in *Peak Four* (parts 1 and 2). It is not intended that the book should be worked through sequentially but rather that the material should be used selectively for those pupils for whom extra practice would be beneficial.

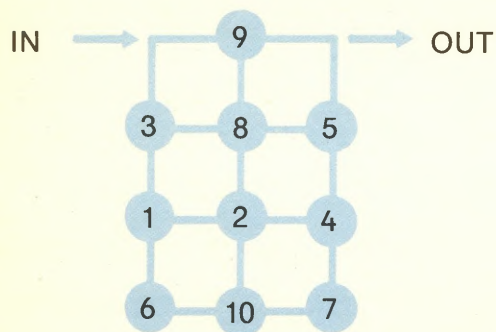
1 Trace a route into and out of the grid.

The same number cannot be visited more than once.

At least three numbers must be visited.

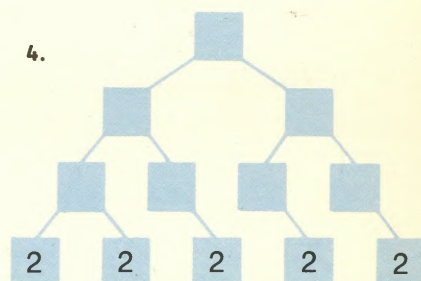
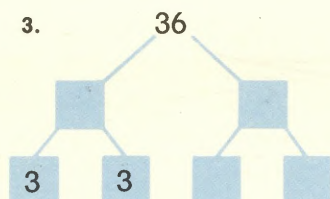
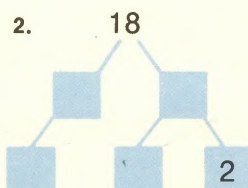
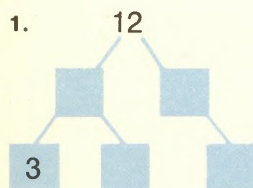
The same link line cannot be used more than once.

Total the numbers as you come to them.



1. Find the largest total.
2. Find the smallest total.
3. Find the route which totals 22.
4. Find the route which totals 35.

2 Copy and complete these factor trees.



3 Find the missing digits.

Symbols that are the same stand for the same digit.

1. $(\star \times 2) + (\star \times 5) = 28$

2. $(\blacktriangle \times \blacktriangle) - (2 \times \blacktriangle) = \blacktriangle$

3. $(\blacksquare + 6) - (\blacksquare - 1) = 7$

4. $(\blacklozenge - 4) \times (\blacklozenge - 6) = 15$

5. $(8 + \star) \times (9 - \star) = 72$

6. $(9 + \clubsuit) \times (\clubsuit - 2) = 42$

4 Find two numbers which have:

1. a total of 12 and a difference of 4
2. a difference of 3 and a product of 54
3. a total of 9 and a product of 14
4. a total of 13 and a difference of 5
5. a total of 10 and a quotient of 4



6. a difference of 6 and a total of 8
7. a total of 12 and a product of 35
8. a total of 13 and a difference of 7
9. a difference of 3 and a product of 70
10. a product of 12 and a quotient of 3.

5 Copy and complete:

1.

×	2		8	
		12		
		20		
7				63
8		32		

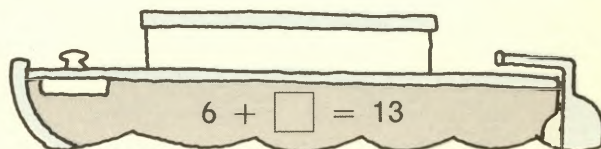
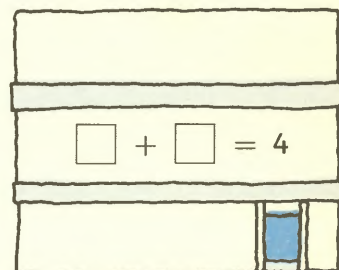
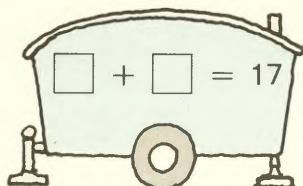
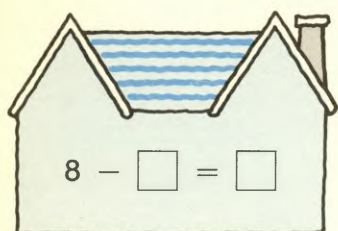
2.

×				8
	6	10		
				32
	21		42	
		45		

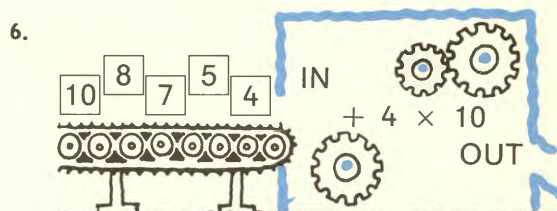
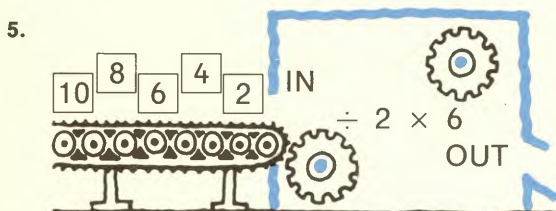
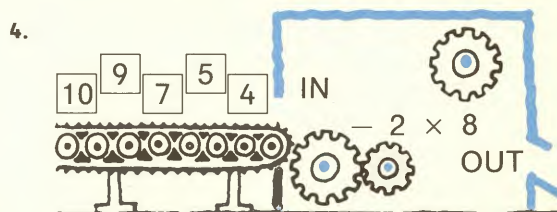
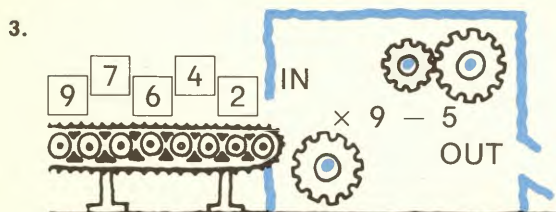
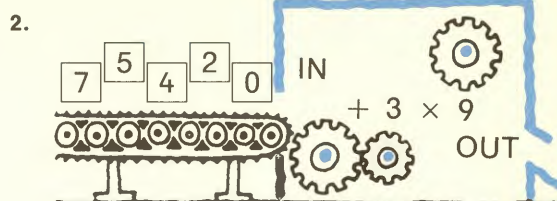
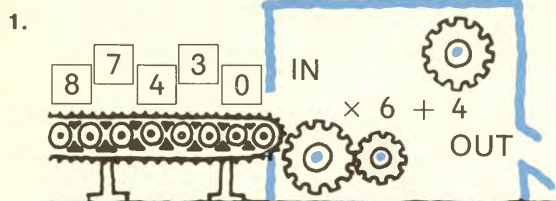
3.

×				
	9			
		25		
			49	
				81

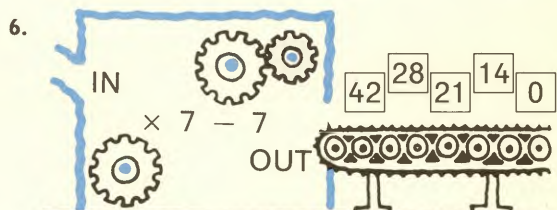
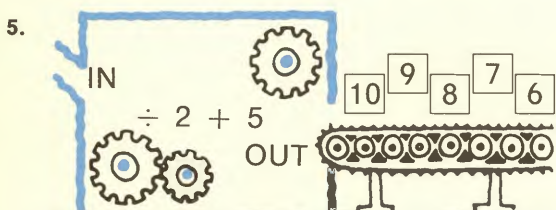
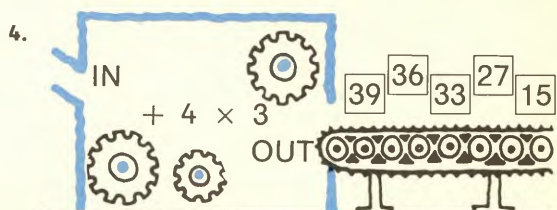
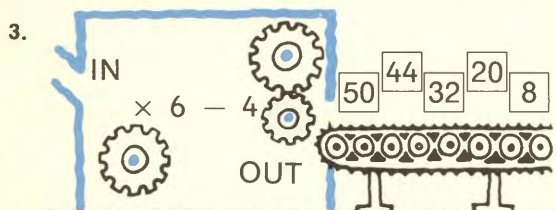
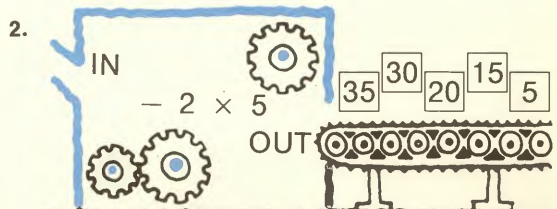
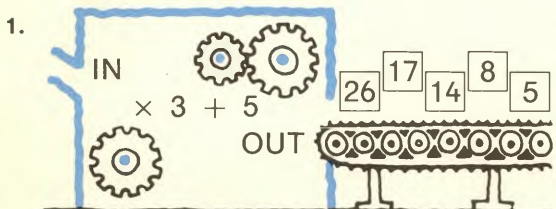
6 Find a home for digits 1 to 9.



7 Put these function machines to work.



8 Which numbers were put into these function machines?



9 Find the number.

1. It is an odd number less than 50.

The sum of its digits is 9.

The difference between its digits is 5.

2. It is a prime number.

The sum of its digits is 5.

The difference between its digits is 3.

3. It is a palindromic number.

It is a multiple of 3.

The sum of its digits is 6.

10 Do these as quickly as you can.

$$21 \div \square = 3$$

$$21 \div \square = 7$$

$$16 \div \square = 4$$

$$\square \div 7 = 8$$

$$56 \div 8 = \square$$

$$\square \div 10 = 6$$

$$\square \div 9 = 7$$

$$54 \div \square = 9$$

$$\square \div 7 = 7$$

$$81 \div \square = 9$$

$$64 \div 8 = \square$$

$$48 \div 8 = \square$$

$$54 \div 9 = \square$$

$$72 \div 9 = \square$$

$$\square \div 5 = 10$$

$$\square \div 7 = 6$$

$$32 \div \square = 4$$

$$48 \div 6 = \square$$

$$45 \div 9 = \square$$

$$36 \div \square = 9$$

$$\square \div 6 = 6$$

$$\square \div 5 = 9$$

$$42 \div \square = 7$$

$$\square \div 5 = 5$$

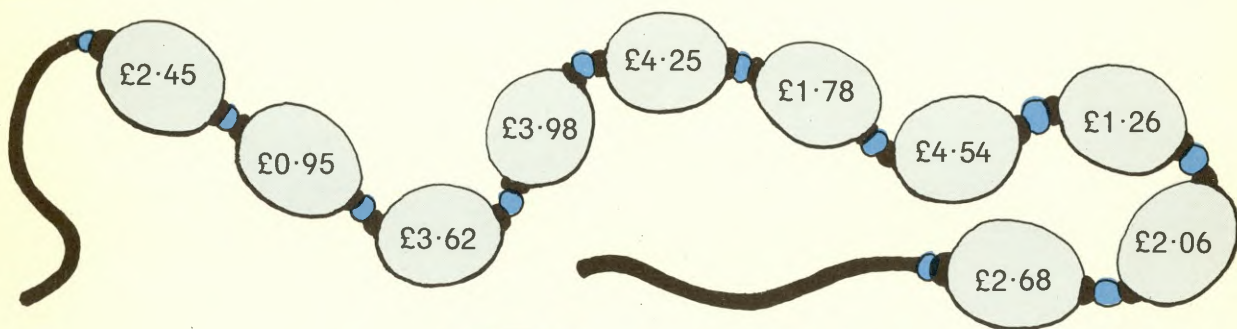
$$18 \div \square = 2$$

$$27 \div \square = 9$$

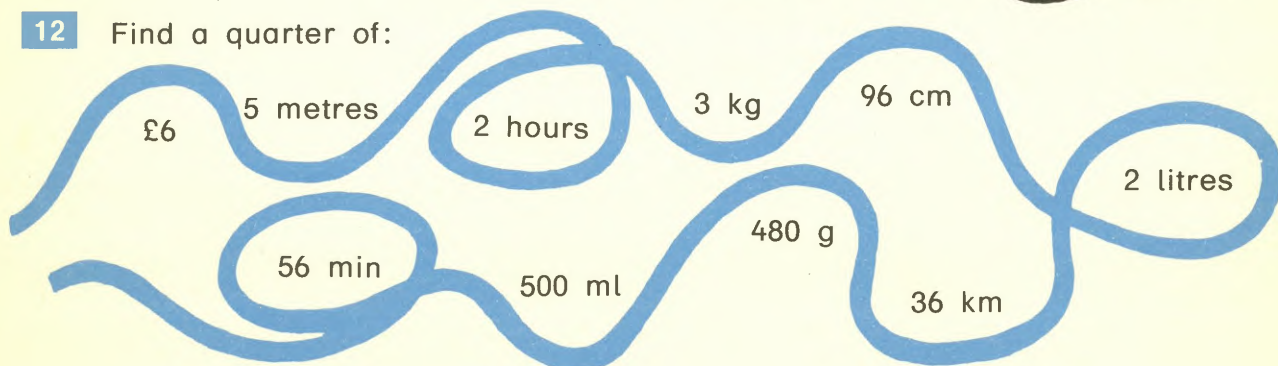
$$\square \div 9 = 4$$

$$24 \div \square = 3$$

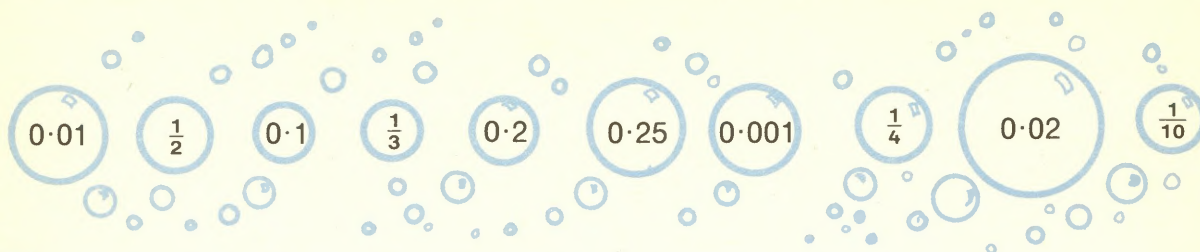
11 What is the change from £5?



12 Find a quarter of:



- 13 What must each of these be multiplied by to give an answer of 1?



- 14 Find pairs where one is half the other.

1 cm

1 dm

5 cm

5 mm

1 km

500 m

50 cm

1 m

- 15 Try to do these in your head.

- | | | | |
|---------------------------|--------------------------|--------------------|--------------------|
| 1. $5 \times 13 \times 2$ | 2. $9 \times 4 \times 5$ | 3. 18×5 | 4. 25×8 |
| 5. $378 + 99$ | 6. $400 - 301$ | 7. 99×3 | 8. $201 + 99 + 54$ |
| 9. $250 + 148 + 750$ | 10. $370 - 71$ | 11. $750 + 156$ | 12. $86 + 19$ |
| 13. $1001 - 199$ | 14. 46×20 | 15. $87 - 49$ | 16. $501 - 62$ |
| 17. $78 - 19$ | 18. $36 + 69$ | 19. 50×70 | 20. $500 - 245$ |

16

1.
$$\begin{array}{r} 48 \\ + 154 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 728 \\ + 96 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 453 \\ + 625 \\ \hline \end{array}$$

4.
$$\begin{array}{r} 208 \\ + 597 \\ \hline \end{array}$$

5.
$$\begin{array}{r} 46 \\ 173 \\ + 156 \\ \hline \end{array}$$

6.
$$\begin{array}{r} 493 \\ 86 \\ + 75 \\ \hline \end{array}$$

7.
$$\begin{array}{r} 672 \\ 188 \\ + 241 \\ \hline \end{array}$$

8.
$$\begin{array}{r} 376 \\ 218 \\ + 87 \\ \hline \end{array}$$

9.
$$\begin{array}{r} 536 \\ 84 \\ + 79 \\ \hline \end{array}$$

10.
$$\begin{array}{r} 174 \\ 236 \\ + 154 \\ \hline \end{array}$$

11.
$$\begin{array}{r} 719 \\ 623 \\ + 158 \\ \hline \end{array}$$

12.
$$\begin{array}{r} 136 \\ 299 \\ + 86 \\ \hline \end{array}$$

17

1. $247 + 96 + 123$

3. $513 + 214 + 73$

5. $831 + 122 + 322$

7. $73 + 471 + 504$

9. $536 + 192 + 214$

2. $478 + 374 + 62$

4. $23 + 412 + 56$

6. $541 + 76 + 310$

8. $632 + 117 + 78$

10. $316 + 244 + 517$



18

1. $£3.42 + £7.41 + £0.73$

3. $£6.24 + £1.98 + £3.25$

5. $6.24 \text{ m} + 4.21 \text{ m}$

7. $1.45 \text{ m} + 3.72 \text{ m}$

2. $£3.86 + £4.26 + £1.77$

4. $£0.28 + £1.76 + £3.45$

6. $8.23 \text{ m} + 3.75 \text{ m}$

8. $9.68 \text{ m} + 0.27 \text{ m}$



19

1. $2.450 \text{ kg} + 3.275 \text{ kg}$

3. $1.255 \text{ kg} + 4.750 \text{ kg}$

5. $2.550 \text{ l} + 4.750 \text{ l}$

7. $3.125 \text{ l} + 3.840 \text{ l}$

2. $0.780 \text{ kg} + 3.750 \text{ kg}$

4. $2.580 \text{ kg} + 4.790 \text{ kg}$

6. $0.125 \text{ l} + 1.950 \text{ l}$

8. $1.850 \text{ l} + 2.470 \text{ l}$

20

$$\begin{array}{r} 1. \quad 209 \\ - \quad 74 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 581 \\ - 179 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 700 \\ - 596 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 613 \\ - 389 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 690 \\ - 174 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 442 \\ - 164 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 502 \\ - 368 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 914 \\ - 196 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 417 \\ - 179 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 214 \\ - \quad 96 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 523 \\ - 187 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 421 \\ - 168 \\ \hline \\ \hline \end{array}$$

21

$$1. \quad 614 - 79$$

$$2. \quad 535 - 194$$

$$3. \quad 414 - 275$$

$$4. \quad 306 - 149$$

$$5. \quad 600 - 326$$

$$6. \quad 540 - 123$$

$$7. \quad 158 - 97$$

$$8. \quad 475 - 386$$

$$9. \quad 794 - 499$$

$$10. \quad 700 - 459$$

$$11. \quad 730 - 456$$

$$12. \quad 821 - 555$$

22 How much change from £5?

$$1. \quad £4.73$$

$$2. \quad £0.78$$

$$3. \quad £3.28$$

$$4. \quad £1.72$$

$$5. \quad £3.14$$

$$6. \quad £0.46$$

$$7. \quad £2.41$$

$$8. \quad £2.96$$

$$9. \quad £4.08$$

$$10. \quad £2.01$$

23 Each of these is cut from a 2 m length of wood.

What length is left each time?

$$1. \quad 123 \text{ cm}$$

$$2. \quad 96 \text{ cm}$$

$$3. \quad 154 \text{ cm}$$

$$4. \quad 168 \text{ cm}$$

$$5. \quad 72 \text{ cm}$$

$$6. \quad 194 \text{ cm}$$

$$7. \quad 103 \text{ cm}$$

$$8. \quad 149 \text{ cm}$$

$$9. \quad 138 \text{ cm}$$

$$10. \quad 66 \text{ cm}$$

24

$$\begin{array}{r} 1. \quad 219 \\ \times \quad 5 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 533 \\ \times \quad 7 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 174 \\ \times \quad 6 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 253 \\ \times \quad 6 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 183 \\ \times \quad 9 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 276 \\ \times \quad 8 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 474 \\ \times \quad 8 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 295 \\ \times \quad 6 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 780 \\ \times \quad 7 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 487 \\ \times \quad 3 \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 547 \\ \times \quad 6 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 927 \\ \times \quad 8 \\ \hline \end{array}$$

25

$$1. \quad 17 \times 5 \times 4$$

$$2. \quad 26 \times 4 \times 7$$

$$3. \quad 12 \times 3 \times 9$$

$$4. \quad 23 \times 9 \times 5$$

$$5. \quad 19 \times 8 \times 5$$

$$6. \quad 22 \times 7 \times 8$$

$$7. \quad 15 \times 5 \times 8$$

$$8. \quad 25 \times 9 \times 9$$

$$9. \quad 24 \times 3 \times 8$$

$$10. \quad 18 \times 6 \times 3$$

$$11. \quad 17 \times 6 \times 7$$

$$12. \quad 29 \times 4 \times 7$$

26

1. 1 book costs £3.95.
What would 6 books cost?
2. 1 packet weighs 725 g.
What would 4 packets weigh?
3. 1 bottle holds 1.250 l.
What would a dozen bottles hold?
4. 1 metre costs £4.56.
What would $3\frac{1}{2}$ metres cost?
5. 1 kg costs £2.76.
What would $8\frac{1}{2}$ kg cost?



- | | | |
|---------------------------|---------------------------|---------------------------|
| 1. $4 \overline{) 324}$ | 2. $8 \overline{) 368}$ | 3. $7 \overline{) 441}$ |
| 4. $9 \overline{) 423}$ | 5. $6 \overline{) 504}$ | 6. $8 \overline{) 632}$ |
| 7. $5 \overline{) 1755}$ | 8. $7 \overline{) 3164}$ | 9. $5 \overline{) 2370}$ |
| 10. $4 \overline{) 1152}$ | 11. $6 \overline{) 2736}$ | 12. $9 \overline{) 2511}$ |

28 Find $\frac{2}{3}$ of each of these.

- | | | | |
|-----------|-----------|-----------|-----------|
| 1. £2.76 | 2. £4.71 | 3. £3.24 | 4. £5.52 |
| 5. 4.23 m | 6. 2.76 m | 7. 1.74 m | 8. 3.27 m |

29 Find $\frac{3}{4}$ of each of these.

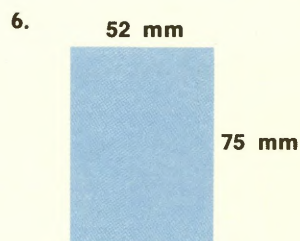
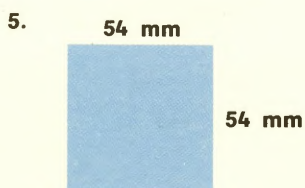
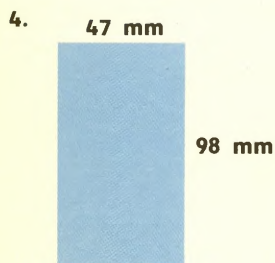
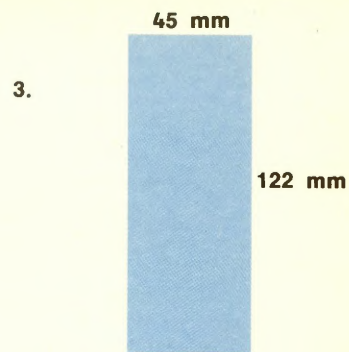
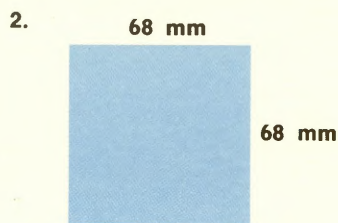
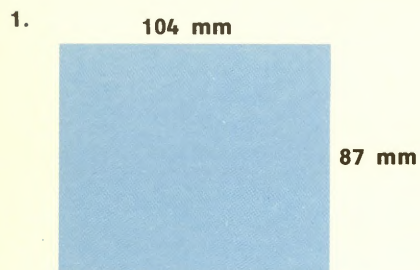
- | | | | |
|--------|--------|--------|--------|
| 1. 736 | 2. 208 | 3. 196 | 4. 532 |
| 5. 604 | 6. 912 | 7. 856 | 8. 728 |

30 Find the average of these.

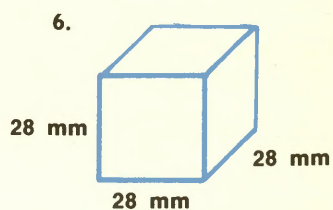
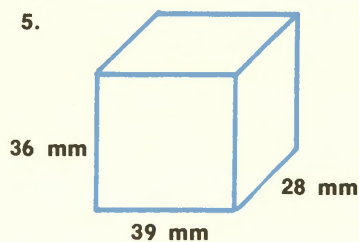
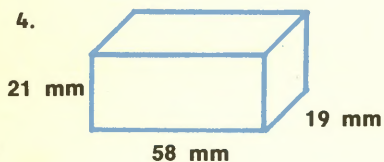
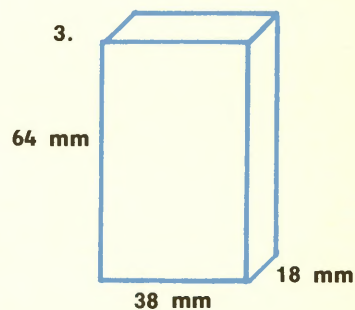
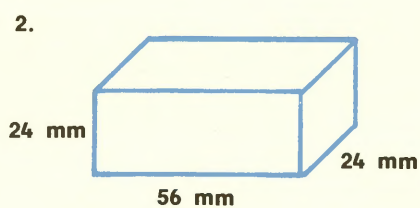
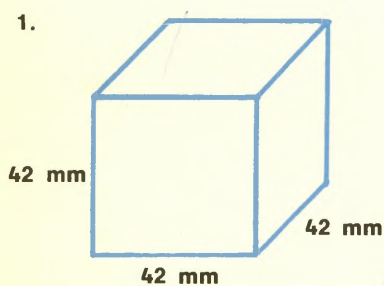
- | | |
|-----------------------------------|-------------------------------|
| 1. 418, 252, 127, 103 | 2. 46, 72, 82, 17, 22, 31 |
| 3. 6.4, 3.8, 5.3, 6.2, 2.3 | 4. 1.26, 4.36, 5.14, 2.12 |
| 5. £4.23, £4.96, £4.13 | 6. £0.24, £1.28, £1.58, £0.54 |
| 7. 2.34 m, 1.56 m, 1.96 m, 2.02 m | 8. 7.26 m, 8.46 m, 5.10 m |

- | | | | |
|-------------------|--------------------|--------------------|--------------------|
| 1. 47×18 | 2. 35×24 | 3. 58×37 | 4. 26×28 |
| 5. 32×32 | 6. 42×35 | 7. 67×84 | 8. 73×66 |
| 9. 49×88 | 10. 56×69 | 11. 85×92 | 12. 67×62 |

32 Calculate the area of these shapes.



33 Calculate the volume of these boxes.



34

1. 134×25

2. 236×19

3. 175×28

4. 207×25

5. 318×29

6. 417×36

7. 512×21

8. 438×62

9. 512×18

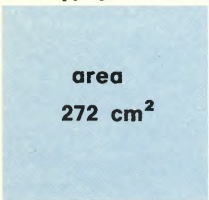


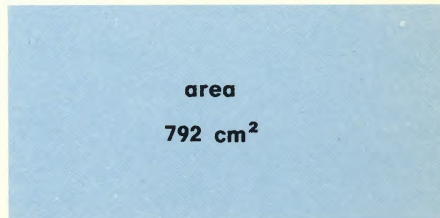


10. 475×35

11. 548×28

12. 627×36

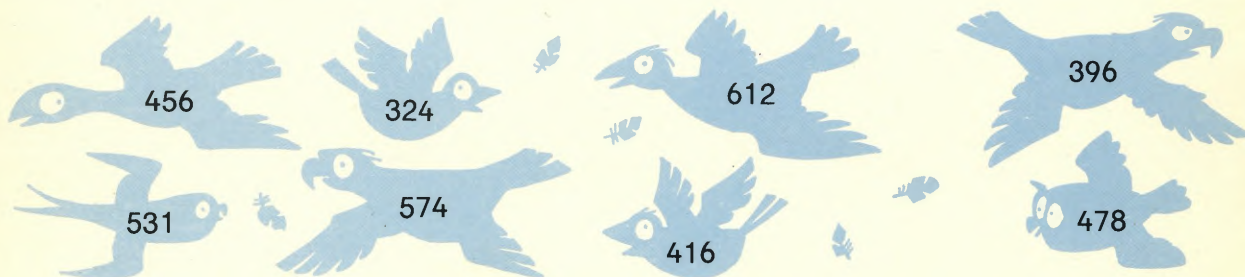
1. $468 \div 18$
2. $864 \div 24$
3. $975 \div 15$
4. $868 \div 14$
5. $800 \div 32$
6. $819 \div 21$
7. $289 \div 17$
8. $928 \div 29$
9. $782 \div 23$
10. $361 \div 19$
11. $672 \div 12$
12. $754 \div 13$

36 Calculate the length of the other side of each shape.

1.  17 cm
area
 272 cm^2
2.  14 cm
area
 196 cm^2
3.  16 cm
area
 448 cm^2
4.  36 cm
area
 792 cm^2
5.  36 cm
area
 648 cm^2
6.  21 cm
area
 378 cm^2

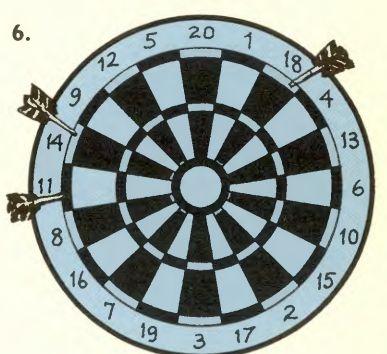
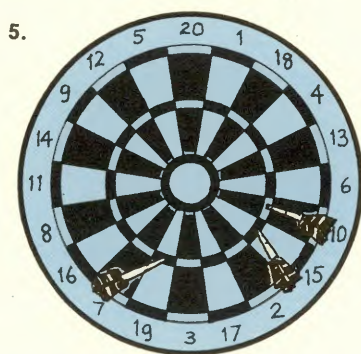
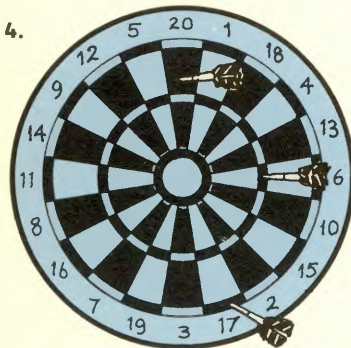
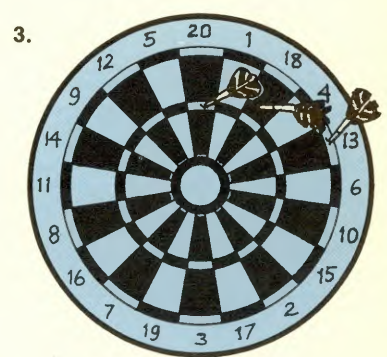
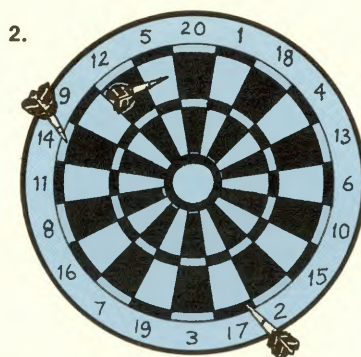
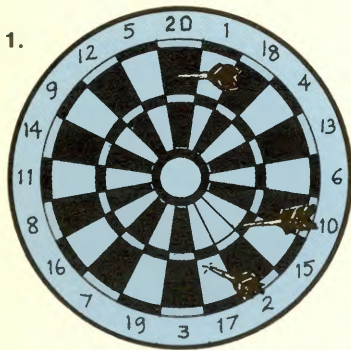
1. $\frac{943}{41}$
2. $\frac{874}{38}$
3. $\frac{225}{15}$
4. $\frac{775}{31}$
5. $\frac{529}{23}$
6. $\frac{396}{18}$
7. $\frac{770}{22}$
8. $\frac{546}{42}$
9. $\frac{320}{16}$
10. $\frac{576}{12}$
11. $\frac{504}{42}$
12. $\frac{728}{56}$

38 Which of these numbers divide exactly by 18?



1. What is the total of 436, 124 and 499?
2. Find the difference between 274 and 578.
3. Find the sum of 869 and 398.
4. What is the product of 236 and 14?
5. What is 73 less than 576?
6. What is 238 more than 175?
7. What is the remainder when 473 is divided by 15?
8. Subtract 286 from 714.

40 What are these darts scores?



41 Subtract each of these Roman numbers from M (1000).

- | | | | |
|-------------|------------|------------|------------|
| 1. CCXXIV | 2. CLXXV | 3. DCCXXII | 4. DCL |
| 5. CCCXLVII | 6. CLXXVII | 7. DXXII | 8. DLXXVII |

42 Multiply three prime numbers under 25 to get each of these answers.

1.

715

2.

561

3.

665

4.

1001

5.

969

6.

2185

7.

2431

8.

759

9.

1045

10.

494

43 Use the information given here to do these in your head.

$$16 \times 24 = 384$$

$$15 \times 22 = 330$$

$$28 \times 11 = 308$$

$$14 \times 25 = 350$$

1. 16×240 2. 30×22 3. 28×25 4. $330 \div 22$

5. $700 \div 14$ 6. 32×12 7. 14×11 8. 15×220

9. 32×24 10. 15×11 11. 14×250 12. $308 \div 22$

13. $384 \div 48$ 14. $330 \div 11$ 15. 56×11 16. $384 \div 32$

44

$$26 \times 19 = 494$$

Now do these in your head.

1. 2.6×19

2. 26×1.9

3. 0.26×19

4. 260×19

5. 260×1.9

6. 26×0.19

7. 260×190

8. 0.26×1.9

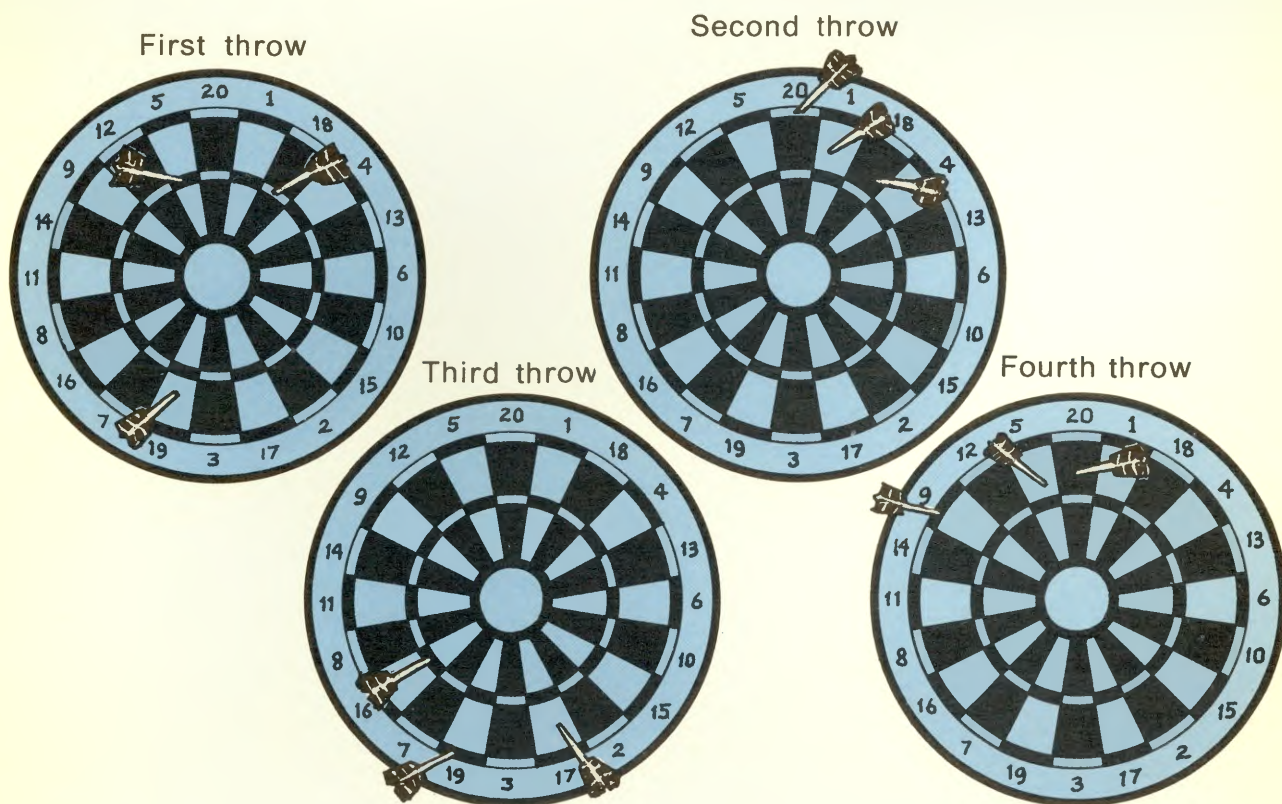
9. 2.6×190

10. 2.6×1.9

11. 26×190

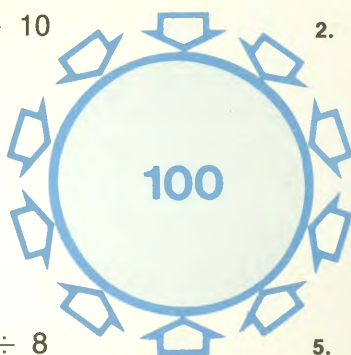
12. 0.26×0.19

45 A game of darts starts with a score of 501.
Each time a player throws, the result is subtracted.
What is this player's score after these four throws?



46 Use brackets to make answers of 100.

1. $9 \times 8 + 4 \times 7$
10. $47 + 9 \times 7 - 10$
2. $14 + 6 \times 13 - 8$
9. $8 \times 8 + 9 \times 4$
3. $13 + 7 \times 8 + 31$
8. $38 - 19 + 9 \times 9$
4. $67 - 17 \times 18 \div 9$
7. $25 \times 8 \div 16 \div 8$
5. $92 + 17 - 45 \div 5$
6. $33 - 29 \times 53 - 28$



47 Here are Mr. and Mrs. Jones.



Thursday

They received a cheque for £200.



Saturday

They bought clothes for £37.99.

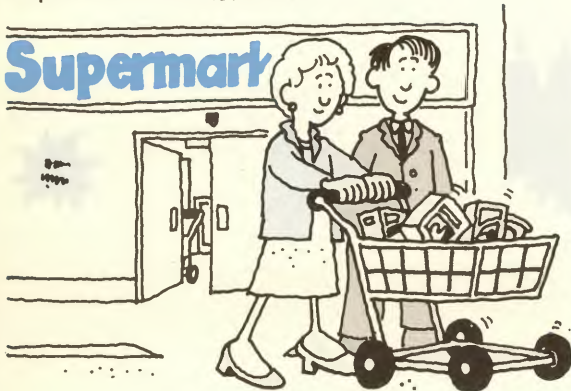


They withdrew £50 from the Post Office.



Friday

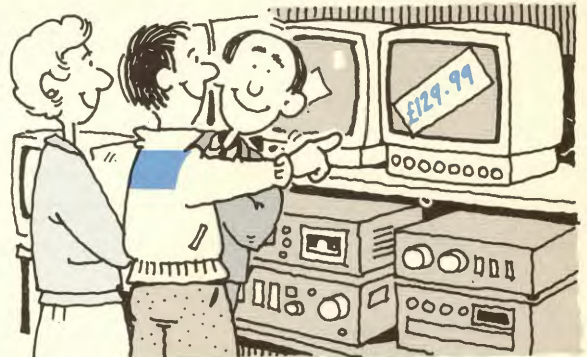
They bought food at the supermarket: £74.63.



They paid the milkman £3.74.



They bought a TV for £129.99.



How much money do Mr. and Mrs. Jones have left?

48 Find the matching pairs.

A $27 + (13 \times 2) - 3$

C $(20 + 10) \div (6 - 4)$

E $(70 \div 7) + 36$

G $127 - (54 + 58)$

I $(6 \times 6) + (3 \times 1)$

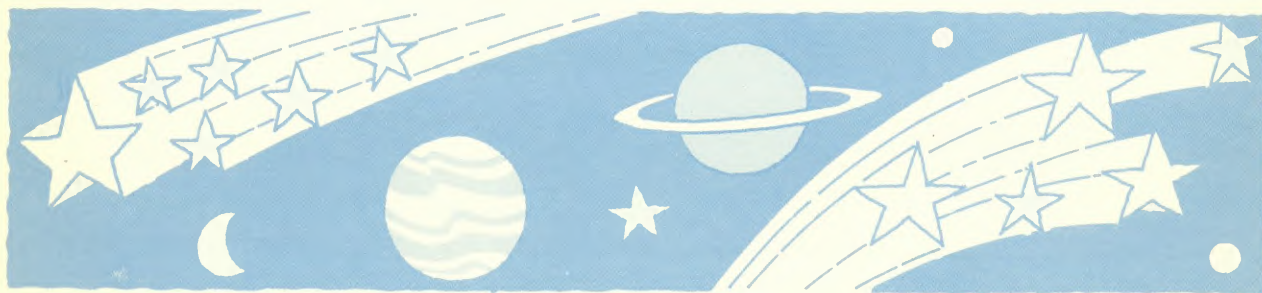
B $(4 \times 9) + 3$

D $(6 \times 5) + (22 \times 10)$

F $(27 + 23) \times 5$

H $(16 \times 4) - (2 \times 7)$

J $(10 \times 5) - (36 \div 9)$



49 Use brackets to make each answer as large as possible.

1. $6 + 4 \times 7$

2. $7 \times 3 + 12$

3. $36 \div 3 + 9$

4. $7 + 2 \times 5$

5. $8 \div 2 \times 4$

6. $12 \times 5 - 3$

7. $3 + 9 \times 5$

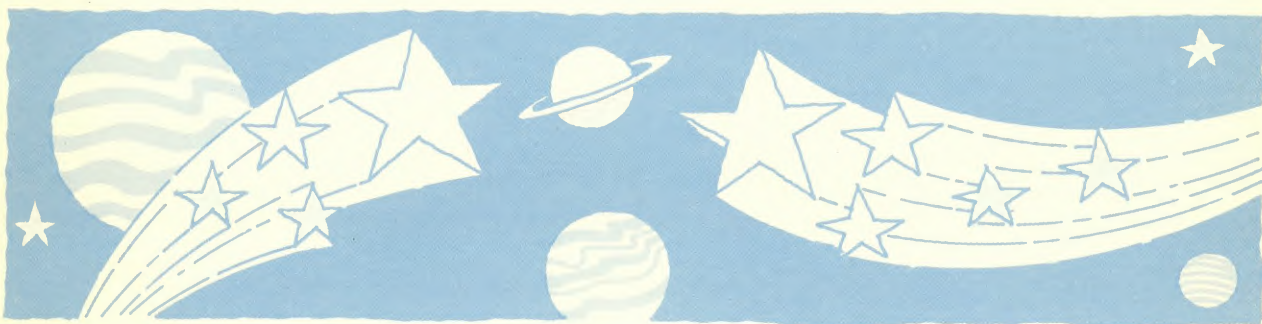
8. $24 \div 3 \times 4$

9. $17 - 4 + 6$

10. $15 \times 3 + 3$

11. $50 - 14 + 6$

12. $48 \div 6 + 6$



50 Use brackets to make each answer an odd number.

1. $6 \times 3 + 5$

2. $5 + 9 \times 6$

3. $60 \div 6 \times 2$

4. $12 \div 3 + 3$

5. $40 \div 5 + 5$

6. $80 \div 8 \times 2$

7. $5 + 9 \times 4$

8. $42 \div 3 \times 2$

9. $15 - 2 \times 6$

10. $4 \times 12 - 11$

11. $9 + 8 \times 8$

12. $24 \div 3 - 1$

51 Use brackets to make each answer true.

1. $10 \times 4 - 3 < 3 \times 4$

2. $6 \times 4 - 1 > 5 \times 4$

3. $6 \times 12 + 1 > 60 + 17$

4. $5 + 9 \times 3 > 6 \times 6$

5. $5 + 10 \times 6 < 9 \times 8$

6. $10 \times 9 - 1 < 9 \times 9$

7. $100 - 3 \times 2 > 10 \times 10$

8. $27 - 3 + 4 < 7 \times 3$

52 Use all the numbers from 10 to 20.

Put one in each empty box to make each statement total 200.

1. $110 + (\square \times 5)$

2. $(20 \times \square) \div 2$

3. $(24 \times 5) + (\square \times 8)$

4. $(\square \times 9) + 56$

6. $(10 \times \square) + (2 \times 5)$

5. $(\square \times 13) - 21$

8. $(\square \times 13) + 31$

7. $(\square \times 19) - 66$

10. $(15 \times \square) + 20$

9. $(11 \times \square) + 35$

53 Use brackets to make each answer a whole number.

You can use a calculator to help you.

1. $6.2 + 1.8 \times 6$

2. $2.5 + 1.9 \times 5$

3. $5.3 - 2.7 + 1.6$

4. $6.4 + 2.3 \times 2$

5. $5.8 + 2.2 \times 6.5$

6. $11.2 - 6.4 - 3.2$

7. $2.9 \times 3 + 4.3$

8. $7.2 + 2.8 \times 2.4$

9. $4.9 \times 7 + 4.7$

10. $3.5 + 2.2 \times 2.5$

54 Use brackets to give an answer between 10 and 20.

1. $7 \times 5 - 3$
2. $27 - 3 + 9$
3. $3 + 4 \times 4$
4. $14 \times 2 - 7 + 4$
5. $24 \div 4 - 2 + 4$
6. $22 - 8 - 5$
7. $12 \div 3 + 9$
8. $4 \times 3 + 1 \times 6$
9. $18 \div 2 + 7 + 10$
10. $7 \times 4 + 4 \div 4$
11. $72 \div 6 - 2$
12. $3 \times 6 - 5 - 4$

55 Use brackets to make these statements true.

1. $3 \times 4 - 2 = 3 + 9 \div 3$
2. $17 - 2 + 3 = 15 - 12 \div 4$
3. $6 + 5 \times 6 = 9 \times 7 - 3$
4. $7 - 3 \times 2 = 10 - 6 + 3$
5. $5 + 4 \times 3 - 1 = 6 \times 2 + 6$
6. $12 \div 6 - 2 = 3 \times 4 - 3 \times 3$
7. $10 - 3 + 5 = 6 \div 6 - 3$
8. $4 \times 2 + 16 \div 4 = 3 \times 4 + 12 \div 4$

56 Find the missing numbers.

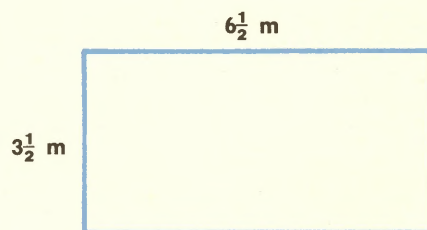
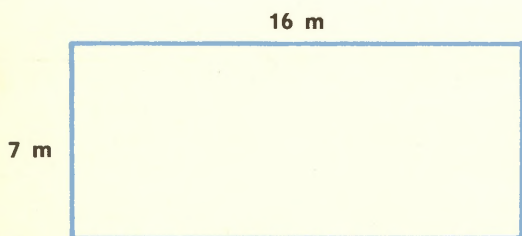
1. $4 \times (\square - 5) = 8$
2. $49 - (17 + \square) = 24$
3. $\square + (8 \times 9) = 90$
4. $13 + (19 - 12) + \square = 27$
5. $18 + (4 \times \square) \div 3 = 18$
6. $\square \times (6 + 12) \div 6 = 24$
7. $(15 - 9) + (\square - 8) = 15$
8. $(7 \times \square) - (14 + 9) = 33$

57 Put in the sign $>$, $<$ or $=$.

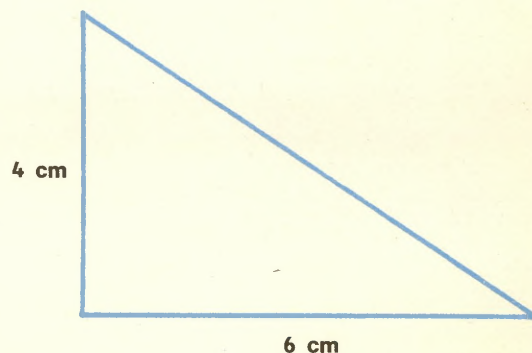
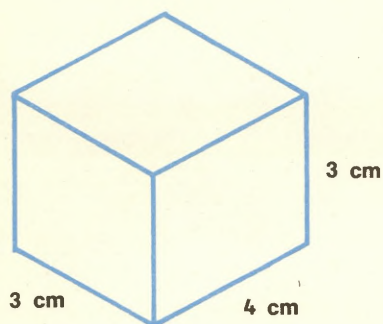
1. $1\frac{3}{4}$ km 1850 m
2. $2\frac{1}{2}$ kg 2250 g
3. $4\frac{1}{4}$ m 4.25 m
4. $3\frac{3}{4}$ hrs 205 mins
5. $2\frac{1}{2}$ litres 2005 ml
6. $2\frac{3}{4}$ m 2750 mm
7. 3.75 km $3\frac{1}{2}$ km
8. 1805 g $1\frac{3}{4}$ kg
9. 75 mins $1\frac{1}{4}$ hrs
10. 1650 ml $1\frac{3}{4}$ litres
11. $4\frac{1}{2}$ m 445 cm
12. 1350 ml $1\frac{1}{4}$ litres

58

1. Find $\frac{1}{4}$ of the area of this shape.
2. Find $\frac{3}{4}$ of the perimeter of this shape.



3. Find $\frac{1}{4}$ of the volume of this shape.
4. Find $\frac{3}{4}$ of the area of this shape.



59 Which is the smaller?

1. $\frac{7}{4}$ or $1\frac{1}{2}$
2. $\frac{15}{10}$ or $1\frac{3}{4}$
3. $\frac{6}{2}$ or $3\frac{1}{10}$
4. $\frac{11}{4}$ or $3\frac{1}{2}$
5. $2\frac{3}{5}$ or $\frac{28}{10}$
6. $\frac{17}{5}$ or $3\frac{1}{2}$
7. $\frac{7}{3}$ or $1\frac{1}{2}$
8. $\frac{9}{4}$ or $2\frac{1}{2}$
9. $2\frac{1}{2}$ or $\frac{27}{10}$
10. $4\frac{1}{2}$ or $\frac{11}{4}$
11. $1\frac{4}{5}$ or $\frac{19}{10}$
12. $\frac{9}{2}$ or $4\frac{7}{10}$

60 Find:

1. $\frac{3}{8}$ of 96 m
2. $\frac{7}{10}$ of 14 kg
3. $\frac{3}{4}$ of £3
4. $\frac{4}{5}$ of 120 mm
5. $\frac{7}{8}$ of 4 m
6. $\frac{2}{3}$ of 4.5 litres
7. $\frac{3}{10}$ of 430 km
8. $\frac{5}{8}$ of 64 kg
9. $\frac{3}{4}$ of £5
10. $\frac{2}{5}$ of 2.75 m
11. $\frac{9}{10}$ of 9 kg
12. $\frac{2}{3}$ of £4.80

61 Complete these:

1. $\frac{7}{10} = \frac{\square}{100} = 0 \cdot \square = \square \%$
2. $\frac{9}{10} = \frac{\square}{100} = 0 \cdot \square = \square \%$
3. $\frac{3}{10} = \frac{\square}{100} = 0 \cdot \square = \square \%$
4. $\frac{2}{5} = \frac{\square}{10} = 0 \cdot \square = \square \%$
5. $\frac{1}{4} = \frac{\square}{100} = 0 \cdot \square = \square \%$
6. $\frac{4}{5} = \frac{\square}{10} = 0 \cdot \square = \square \%$
7. $\frac{3}{4} = \frac{\square}{100} = 0 \cdot \square = \square \%$
8. $\frac{1}{5} = \frac{\square}{10} = 0 \cdot \square = \square \%$
9. $\frac{1}{2} = \frac{\square}{10} = 0 \cdot \square = \square \%$
10. $\frac{3}{5} = \frac{\square}{10} = 0 \cdot \square = \square \%$

62

1. $1\frac{1}{2} + 2\frac{3}{4}$
2. $3\frac{3}{4} + 2\frac{1}{4}$
3. $1\frac{3}{4} + 2\frac{3}{4}$
4. $1\frac{3}{8} + 1\frac{3}{4}$
5. $2\frac{7}{10} + 1\frac{1}{2}$
6. $2\frac{4}{5} + 3\frac{3}{10}$
7. $2\frac{9}{10} - 1\frac{1}{5}$
8. $3\frac{1}{2} - 1\frac{1}{8}$
9. $4\frac{1}{4} - 3\frac{1}{8}$
10. $5\frac{3}{4} - 1\frac{3}{8}$
11. $2\frac{9}{10} - 1\frac{1}{2}$
12. $3\frac{7}{8} - 1\frac{1}{4}$

63 Write each line of fractions in order of size.

Start with the largest.

1. $\frac{1}{5}$ $\frac{1}{2}$ $\frac{9}{10}$ $\frac{2}{5}$

3. $\frac{3}{8}$ $\frac{3}{4}$ $\frac{1}{2}$ $\frac{7}{8}$


5. $\frac{1}{5}$ $\frac{1}{3}$ $\frac{1}{4}$ $\frac{1}{8}$


2. $\frac{5}{6}$ $\frac{2}{3}$ $\frac{1}{6}$ $\frac{1}{3}$


4. $\frac{7}{10}$ $\frac{3}{10}$ $\frac{1}{2}$ $\frac{2}{5}$


6. $\frac{5}{8}$ $\frac{1}{2}$ $\frac{3}{4}$ $\frac{1}{3}$


64 Which number is under each blot?


1. $\frac{1}{2}$ of  is 18.


2. $\frac{1}{8}$ of  is 4.


3. $\frac{2}{3}$ of  is 10.

4. $\frac{2}{5}$ of  is 20.


5. $\frac{3}{4}$ of  is 24.

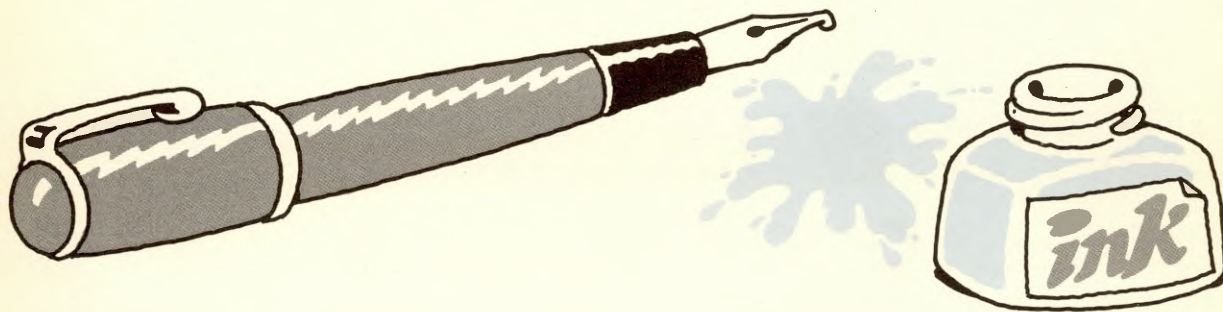
6. $\frac{3}{10}$ of  is 36.

7. $\frac{1}{4}$ of  is 7.

8. $\frac{1}{3}$ of  is 9.

9. $\frac{5}{6}$ of  is 25.

10. $\frac{4}{5}$ of  is 16.



65 Which is the greater?

1. $\frac{1}{2}$ of 3 kg or $\frac{1}{4}$ of 5 kg

2. $\frac{3}{10}$ of 1.20 m or $\frac{2}{5}$ of 95 cm

3. $\frac{3}{4}$ of £3.56 or $\frac{3}{8}$ of £7.04

4. $\frac{3}{5}$ of 245 or $\frac{1}{2}$ of 296

5. $\frac{2}{3}$ of 2.52 m or $\frac{1}{5}$ of 9 m

6. $\frac{3}{4}$ of 1.5 litres or $\frac{1}{3}$ of 4.5 litres

7. $\frac{7}{8}$ of £4.08 or $\frac{5}{6}$ of £4.20

8. $\frac{7}{10}$ of 4 kg or $\frac{2}{3}$ of 3.9 kg

66 What is the value of the underlined digit?

- | | | | |
|--------------------|---------------------|-----------------------|---------------------------|
| 1. 2· <u>3</u> 45 | 2. 0· <u>7</u> 4 | 3. <u>1</u> 2·7 | 4. 1·0 <u>9</u> 5 |
| 5. 307· <u>1</u> 4 | 6. 8·6 <u>9</u> 4 | 7. 0·0 <u>7</u> 2 | 8. 37· <u>4</u> 6 |
| 9. 3· <u>6</u> 7 m | 10. 4· <u>7</u> 5 m | 11. 3· <u>7</u> 60 kg | 12. 5·8 <u>4</u> 0 litres |
| 13. £7· <u>4</u> 2 | 14. 12· <u>7</u> cm | 15. 7· <u>4</u> 40 km | 16. 1·9 <u>2</u> 0 kg |

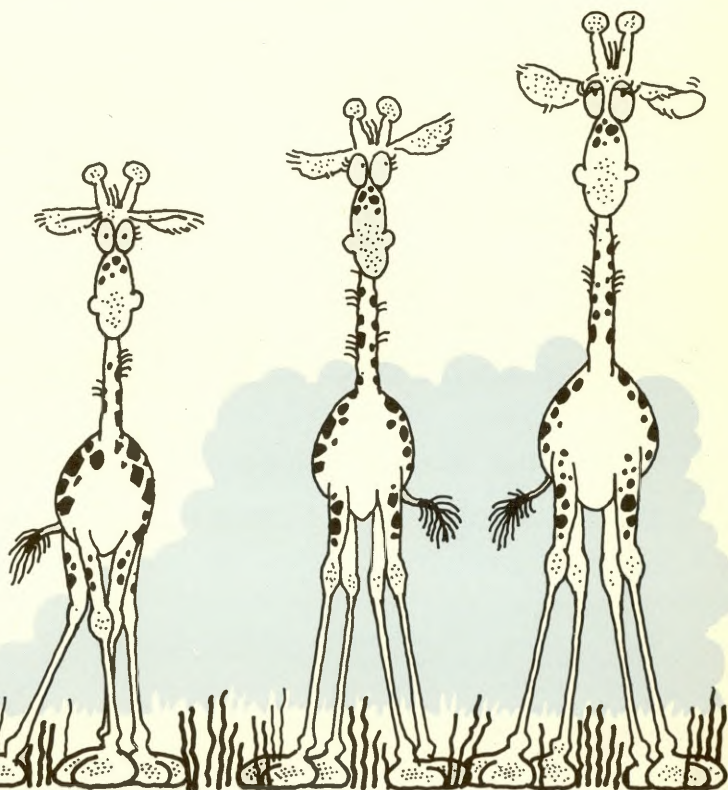
67 Find the missing number.

- | | |
|--|--|
| 1. $2\cdot3 \div \square = 0\cdot23$ | 2. $34\cdot8 \times \square = 348$ |
| 3. $0\cdot592 \times \square = 592$ | 4. $28\cdot47 \div \square = 2\cdot847$ |
| 5. $184\cdot9 \div \square = 1\cdot849$ | 6. $0\cdot721 \times \square = 7\cdot21$ |
| 7. $2468 \div \square = 24\cdot68$ | 8. $3\cdot495 \times \square = 34\cdot95$ |
| 9. $0\cdot137 \times \square = 13\cdot7$ | 10. $4\cdot23 \div \square = 0\cdot423$ |
| 11. $76\cdot4 \div \square = 7\cdot64$ | 12. $1\cdot563 \times \square = 156\cdot3$ |

68 Put these in order of size.

Start with the smallest.

- 3·099 4 3·909 3·899
- 17·4 17·099 17·05 17·19
- 0·767 0·676 0·666 0·777
- 5·1 4·999 4·99 5·01
- 0·2 0·002 0·122 0·212
- 12·04 12·1 12·098 12
- 0·72 0·699 0·719 0·721
- 15·5 15·499 15·51 15·498



69 What has happened?

1. $2.3 \xrightarrow{-\square} 1.7$

3. $0.72 \xrightarrow{\div\square} 0.08$

5. $0.7 \xrightarrow{\times\square} 4.2$

7. $0.9 \xrightarrow{\times\square} 7.713$

2. $0.78 \xrightarrow{+\square} 1.42$

4. $2.74 \xrightarrow{+\square} 5.493$

6. $36.78 \xrightarrow{-\square} 29.099$

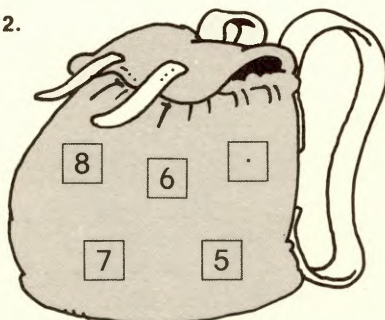
8. $9.6 \xrightarrow{\div\square} 0.4$

70 Rearrange these to make the number nearest to 4.7.

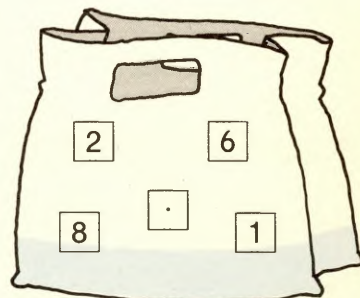
1.



2.



3.



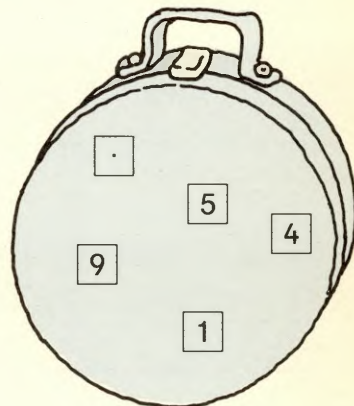
4.



5.



6.



71 Fill in the missing number.

1. $3.45 \quad \square \quad 3.65$

2. $0.12 \quad \square \quad 0.22$

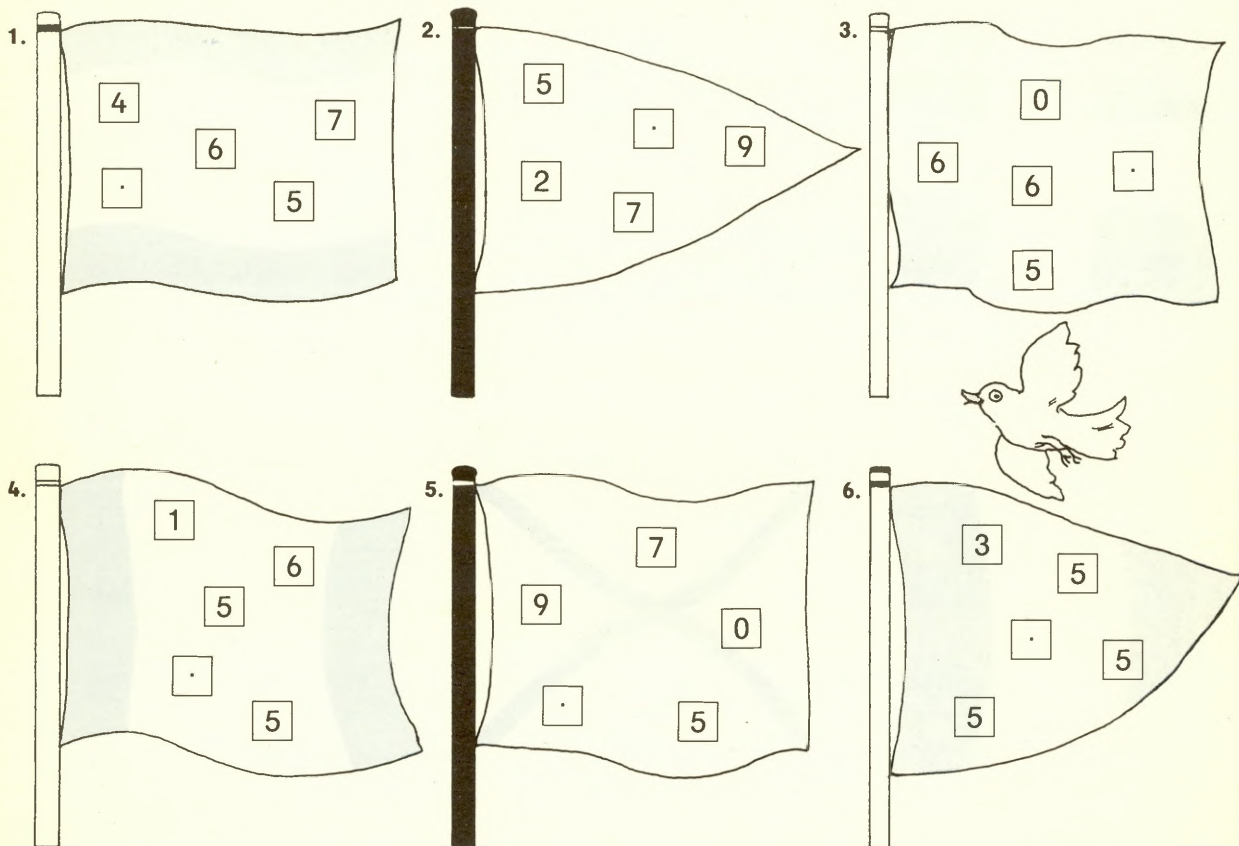
3. $4.78 \quad \square \quad 4.8$

4. $0.42 \quad \square \quad 0.48$

5. $2.15 \quad \square \quad 2.75$

6. $5.75 \quad \square \quad 6.25$

72 Rearrange these to make numbers between 5 and $5\frac{1}{2}$.



73 Find the missing decimal points.

- $2.48 + 397 = 6.45$
- $2.15 - 1976 = 0.174$
- $14 - 1.17 = 0.23$
- $1468 \times 3 = 44.04$
- $234 \times 9 = 21.06$
- $2065 \div 7 = 2.95$
- $1472 \div 4 = 3.68$
- $4074 + 1.37 = 5.444$
- $3472 + 1.249 = 4.721$
- $1024 \times 5 = 5.12$

74 Give the answer as a decimal number.

- $126 \div 8$
- $85 \div 4$
- $136 \div 10$
- $159 \div 8$
- $98 \div 5$
- $117 \div 4$
- $243 \div 10$
- $124 \div 5$
- $239 \div 8$
- $137 \div 4$
- $178 \div 10$
- $146 \div 5$

75 Put the numbers in the correct boxes.

1. $\square > \square > \square$

2.493
2.943
2.349

2. $\square < \square < \square$

0.101
1.01
0.011

3. $\square < \square < \square$

7.492
7.402
7.489

4. $\square > \square > \square$

6.1
6.199
6.098

5. $\square > \square > \square$

4.237
4
4.219

6. $\square < \square < \square$

2.9
3
2.899

76 Rearrange these to make the number nearest to 5.3.

1.

2.

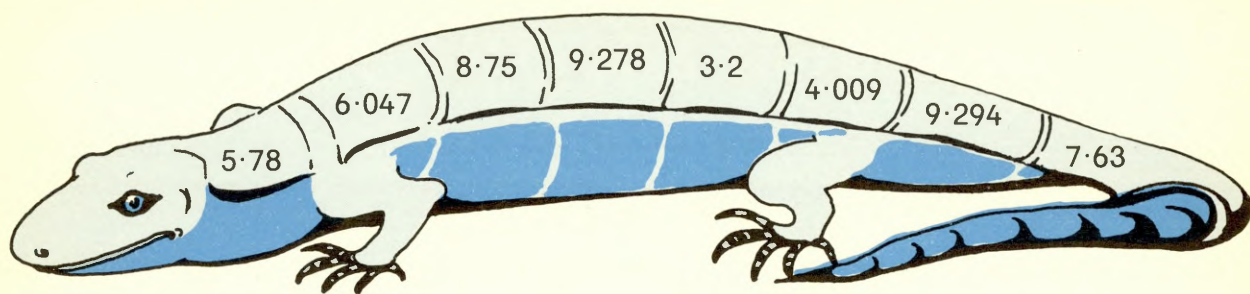
3.

4.

5.

6.

- 77 What must be subtracted from each of these to give an answer of 3?



- 78 Find the missing numbers.

$$\begin{array}{r} * \cdot 34 \\ + 1 \cdot 692 \\ \hline 4 \cdot 0 * 2 \end{array}$$

$$\begin{array}{r} 7 \cdot 0 * \\ - * \cdot 95 \\ \hline 4 \cdot 09 \end{array}$$

$$\begin{array}{r} 2 \cdot * 46 \\ + 0 \cdot 37 \\ \hline * \cdot 316 \end{array}$$

$$\begin{array}{r} 7 \cdot * 41 \\ \times \quad 8 \\ \hline 57 \cdot 92 * \end{array}$$

$$\begin{array}{r} 3 \cdot 5 * \\ 7 \overline{) 2 * \cdot 13} \end{array}$$

$$\begin{array}{r} 4 \cdot 70 * \\ - 1 \cdot 693 \\ \hline * \cdot * 09 \end{array}$$

$$\begin{array}{r} 3 \cdot 7 * \\ \times \quad 5 \\ \hline * 8 \cdot 60 \end{array}$$

$$\begin{array}{r} 4 \cdot 117 \\ 3 \overline{) 1 * \cdot 35 *} \end{array}$$

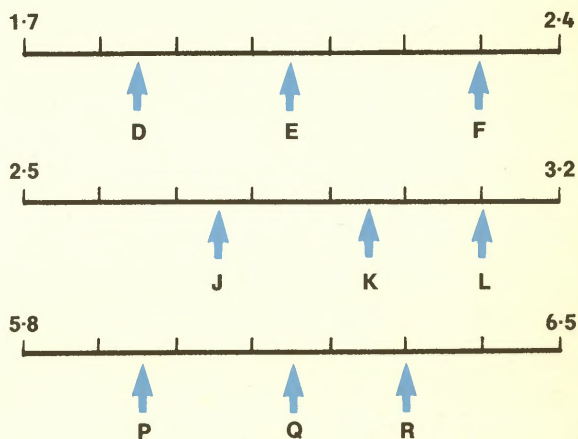
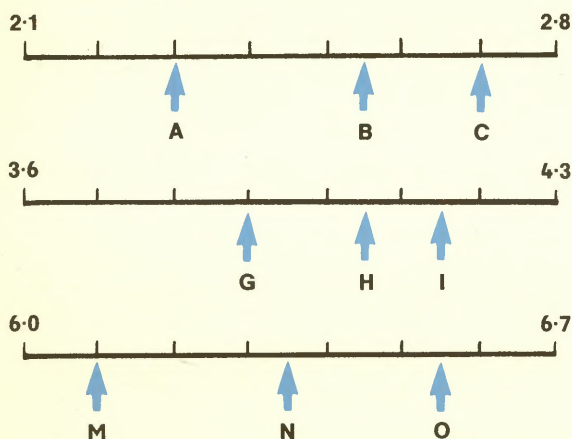
$$\begin{array}{r} * \cdot 76 \\ - 0 \cdot 94 * \\ \hline 0 \cdot 8 * 7 \end{array}$$

$$\begin{array}{r} 2 \cdot * * \\ 7 \overline{) * 9 \cdot 81} \end{array}$$

$$\begin{array}{r} * \cdot 046 \\ + 1 \cdot 9 * 9 \\ \hline 9 \cdot * 15 \end{array}$$

$$\begin{array}{r} * \cdot 0 * 8 \\ \times \quad 3 \\ \hline 9 \cdot * 44 \end{array}$$

- 79 Which decimal numbers do the arrows point to?



$$\begin{array}{r} 1. \quad 4.78 \\ + 0.692 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 3.94 \\ + 4.75 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 0.798 \\ + 2.046 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 17.4 \\ + 3.798 \\ \hline \end{array}$$

$$5. \quad 7.8 + 3.984 + 2.76$$

$$6. \quad 3.94 + 6 + 7.482$$

$$7. \quad 5.92 + 0.023 + 0.73$$

$$8. \quad 56.7 + 17.74 + 6.98$$

$$9. \quad 4.9 + 2.732 + 6.98$$

$$10. \quad 5.73 + 2.7 + 3.842$$

$$\begin{array}{r} 1. \quad 7.62 \\ - 4.95 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 56.7 \\ - 12.74 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 12.74 \\ - 8.982 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 3.8 \\ - 1.984 \\ \hline \end{array}$$

$$5. \quad 6.1 - 4.78$$

$$6. \quad 3.24 - 1.735$$

$$7. \quad 4.2 - 2.347$$

$$8. \quad 6 - 4.78$$

$$9. \quad 7.24 - 2.69$$

$$10. \quad 3.1 - 1.724$$

$$\begin{array}{r} 1. \quad 4.23 \\ \times \quad 7 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 0.623 \\ \times \quad 4 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 8.4 \\ \times \quad 9 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 2.692 \\ \times \quad 5 \\ \hline \end{array}$$

$$5. \quad 7.2 \times 9$$

$$6. \quad 4.783 \times 3$$

$$7. \quad 0.742 \times 6$$

$$8. \quad 2.34 \times 5$$

$$9. \quad 5.42 \times 4$$

$$10. \quad 0.724 \times 8$$

$$11. \quad 1.147 \times 9$$

$$12. \quad 2.743 \times 6$$

1. $3 \overline{) 11 \cdot 34}$

2. $5 \overline{) 3 \cdot 47}$

3. $7 \overline{) 12 \cdot 53}$

4. $4 \overline{) 10 \cdot 524}$

5. $16 \cdot 26 \div 3$

6. $6 \cdot 104 \div 8$

7. $6 \cdot 776 \div 4$

8. $4 \cdot 482 \div 9$

9. $7 \cdot 34 \div 2$

10. $7 \cdot 355 \div 5$

11. $4 \cdot 718 \div 7$

12. $9 \cdot 792 \div 6$

84 What do the arrows stand for?

1. $25 \longrightarrow 2$

2. $5 \longrightarrow 23$

$36 \longrightarrow 3$

$3 \longrightarrow 15$

$47 \longrightarrow 4$

$8 \longrightarrow 35$

$-\square \div \square$

$\times \square + \square$

3. $8 \longrightarrow 20 \longrightarrow 56 \longrightarrow 164 \longrightarrow 488$

$\times \square - \square$

85 Complete each of these.

1. 90, 78, 66, 54, __, __, __, 6

2. 3, 6, 12, 24, __, __, __, 384

3. 3, 7, 15, 31, __, __, __, 511

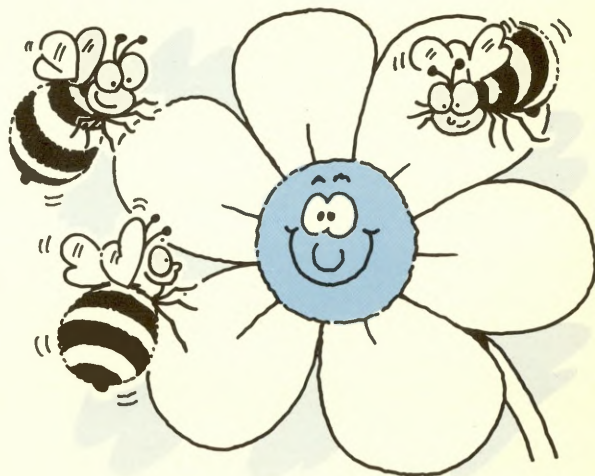
4. 1.5, 3, 4.5, __, __, __, 10.5, __

5. __, 0.55, __, 1.55, 2.05, __, __, 3.55











6. 96, 48, 24, 12, 6, __, __, __

7. 243, 81, 27, 9, __, __, __, $\frac{1}{9}$

8. 16, 8, 4, 2, __, __, __, $\frac{1}{8}$



86 Which number is under the blot?

1. $\frac{1}{2}$ of , add 7 = 24
2. $\frac{1}{3}$ of , multiplied by 2 = 10
3. $\frac{1}{5}$ of , subtract 5 = 15
4. $\frac{1}{4}$ of , add 14 = 20
5. $\frac{1}{10}$ of , multiplied by 7 = 49
6. $\frac{1}{5}$ of , subtract 8 = 0
7. $\frac{1}{6}$ of , divided by 4 = 2
8. $\frac{1}{8}$ of , multiplied by 7 = 42
9. $\frac{1}{2}$ of , add 8 = 58
10. $\frac{1}{4}$ of , multiplied by 6 = 48

87 Find the numbers.

1. The product of two numbers is 100.
Their difference is 15.
What are the numbers?
2. The total of two numbers is 120.
One number is twice as big as the other.
What are the numbers?
3. Two numbers multiplied together give an answer of 91.
One number is 6 more than the other.
What are the numbers?
4. Three numbers total 42.
The first number is twice as big as the second number.
The second number is twice as big as the third number.
What are the numbers?
5. A number is halved and then divided by 4.
The answer is 8.
What is the number?

88 Make each of these give an answer of 10.

- | | | |
|------------------------------|------------------------------|------------------------------|
| 1. $2\frac{1}{2} + \square$ | 2. $4\frac{3}{4} + \square$ | 3. $4\frac{1}{2} + \square$ |
| 4. $13\frac{3}{4} - \square$ | 5. $11\frac{1}{2} - \square$ | 6. $12\frac{1}{4} - \square$ |
| 7. $3\cdot6 + \square$ | 8. $5\cdot9 + \square$ | 9. $7\cdot25 + \square$ |
| 10. $11\cdot3 - \square$ | 11. $14\cdot75 - \square$ | 12. $18\cdot95 - \square$ |

89 Fill in the missing numbers.

They are all whole numbers of 10 or less.

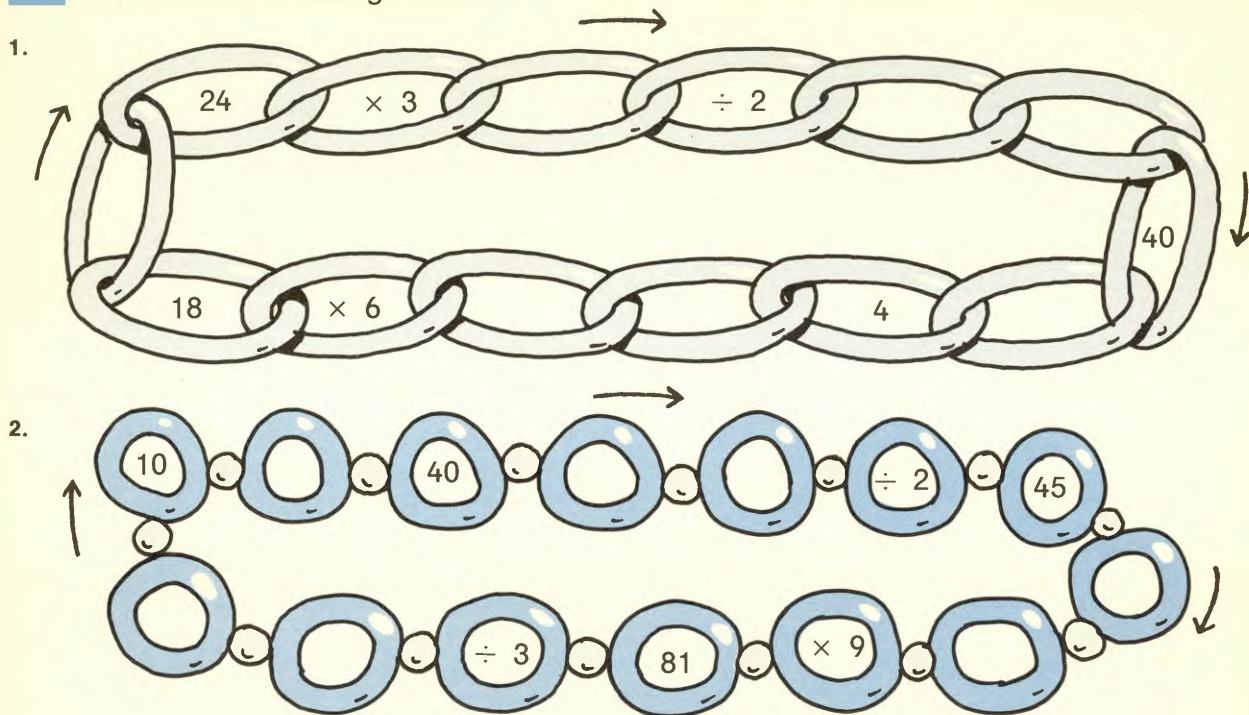
1. $2.6 \times \square = 26$
2. $2.5 \times \square = 10$
3. $1.3 \times \square = 5.2$
4. $1.9 \times \square = 11.4$
5. $3.7 \times \square = 11.1$
6. $9.4 \times \square = 18.8$
7. $1.3 \times \square = 9.1$
8. $1.4 \times \square = 12.6$
9. $1.5 \times \square = 10.5$
10. $2.15 \times \square = 12.9$
11. $1.25 \times \square = 7.5$
12. $3.05 \times \square = 21.35$



90

1.
$$\begin{array}{r} 2 * 3 \\ 13 * \\ + * 58 \\ \hline 600 \end{array}$$
2.
$$\begin{array}{r} 17 * \\ 2 * 6 \\ + 113 \\ \hline * 08 \end{array}$$
3.
$$\begin{array}{r} 4 * \\ 339 \\ + * * 7 \\ \hline 515 \end{array}$$
4.
$$\begin{array}{r} 1 * 8 \\ * 7 \\ + 32 * \\ \hline 624 \end{array}$$
5.
$$\begin{array}{r} 7 * 3 \\ - 16 * \\ \hline 535 \end{array}$$
6.
$$\begin{array}{r} * 36 \\ - * 7 \\ \hline 8 * \end{array}$$
7.
$$\begin{array}{r} 5 * * \\ - 168 \\ \hline * 87 \end{array}$$
8.
$$\begin{array}{r} 4 * * \\ - * 16 \\ \hline 265 \end{array}$$
9.
$$\begin{array}{r} * 7 \\ \times 5 \\ \hline * 85 \end{array}$$
10.
$$\begin{array}{r} 1 * 3 \\ \times 4 \\ \hline 41 * \end{array}$$
11.
$$\begin{array}{r} 19 * \\ \times 5 \\ \hline * 70 \end{array}$$
12.
$$\begin{array}{r} * 6 \\ \times 9 \\ \hline * 7 * \end{array}$$
13.
$$\begin{array}{r} 5 * \\ 7 \overline{) * 13} \end{array}$$
14.
$$\begin{array}{r} * 6 \\ 8 \overline{) 76 *} \end{array}$$
15.
$$\begin{array}{r} 10 * \\ * \overline{) 624} \end{array}$$
16.
$$\begin{array}{r} 293 \\ 3 \overline{) 8 * *} \end{array}$$

91 Fill in the missing links.



92 Find the missing function in each line.

1. $7 \rightarrow \boxed{\times \square + \triangle} \rightarrow 17 \rightarrow \boxed{\times \square + \triangle} \rightarrow 37 \rightarrow \boxed{\times \square + \triangle} \rightarrow 77$
2. $13 \rightarrow \boxed{\times \square - \triangle} \rightarrow 29 \rightarrow \boxed{\times \square - \triangle} \rightarrow 77 \rightarrow \boxed{\times \square - \triangle} \rightarrow 221$
3. $16 \rightarrow \boxed{\div \square + \triangle} \rightarrow 12 \rightarrow \boxed{\div \square + \triangle} \rightarrow 10 \rightarrow \boxed{\div \square + \triangle} \rightarrow 9$
4. $65 \rightarrow \boxed{\div \square + \triangle} \rightarrow 15 \rightarrow \boxed{\div \square + \triangle} \rightarrow 5 \rightarrow \boxed{\div \square + \triangle} \rightarrow 3$

93 Fill in the missing numbers.

1. $\square - 18 = 19$
2. $\frac{1}{2}$ of 17 = \square
3. $\frac{1}{4}$ of 18 = \square
4. Double 1.5 is \square
5. $\frac{2}{5}$ of \square is 4
6. $\frac{3}{4}$ of \square is 24
7. $2.5 \times \square = 7.5$
8. $(5 \times \square) + (2 \times \triangle) = 16$
9. $(1 + \square) + (2 \times \triangle) = 9$

94 Find the missing numbers.

1. $16 \xrightarrow{\times \square} 64 \xrightarrow{-\square} 45$

3. $21 \xrightarrow{\times \square} 63 \xrightarrow{-\square} 36$

5. $19 \xrightarrow{+\square} 55 \xrightarrow{\times \square} 220$

7. $40 \xrightarrow{\div \square} 8 \xrightarrow{\times \square} 136$

9. $169 \xrightarrow{\div \square} 13 \xrightarrow{\times \square} 156$

2. $20 \xrightarrow{\div \square} 4 \xrightarrow{\times \square} 64$

4. $26 \xrightarrow{\div \square} 2 \xrightarrow{\times \square} 34$

6. $100 \xrightarrow{-\square} 25 \xrightarrow{\times \square} 200$

8. $108 \xrightarrow{\div \square} 18 \xrightarrow{+\square} 70$

10. $9 \xrightarrow{\times \square} 126 \xrightarrow{-\square} 99$

95 Finish each tower.

1.

135
45
15
5

2.

6
12
24

3.

4·8
2·4
1·2

4.

4·2
5·6
7

5.

1·15
1·1
1·05

6.

7
14
28

96 Find the missing numbers.

1. $1·5 \xrightarrow{\times 4} \square \xrightarrow{\div \square} 1·2$

3. $2·75 \xrightarrow{\times \square} 16·5 \xrightarrow{-\square} 12$

5. $10 \xrightarrow{\div \square} 2·5 \xrightarrow{\times \square} 7·5$

7. $15 \xrightarrow{\div \square} 2·5 \xrightarrow{\div \square} 0·5$

9. $26 \xrightarrow{\div 5} \square \xrightarrow{+\square} 6$

2. $2·5 \xrightarrow{\times \square} 5 \xrightarrow{\div 10} \square$

4. $4·6 \xrightarrow{+\square} 8 \xrightarrow{\div \square} 1·6$

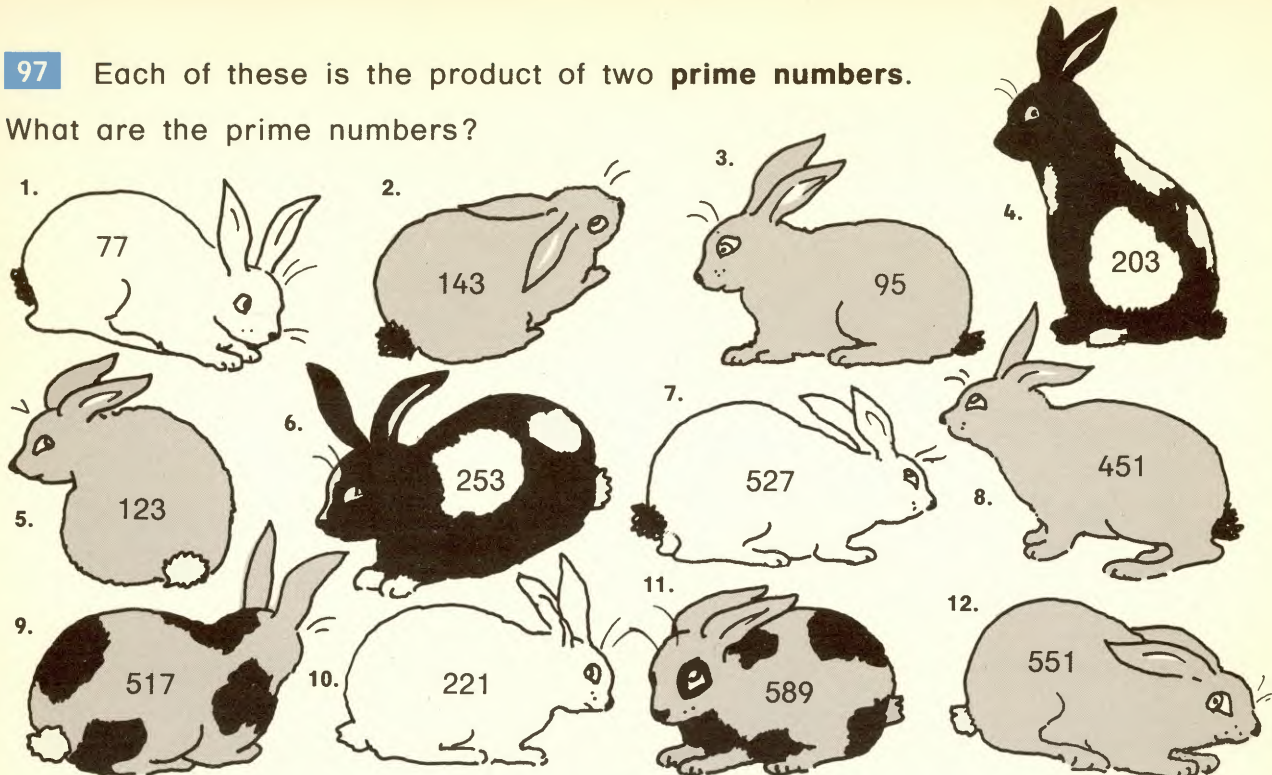
6. $\square \xrightarrow{\div 2} 1·5 \xrightarrow{+\square} 7$

8. $16 \xrightarrow{\div 5} \square \xrightarrow{+\square} 4·2$

10. $11 \xrightarrow{\div \square} 5·5 \xrightarrow{\times \square} 44$

97 Each of these is the product of two **prime numbers**.

What are the prime numbers?



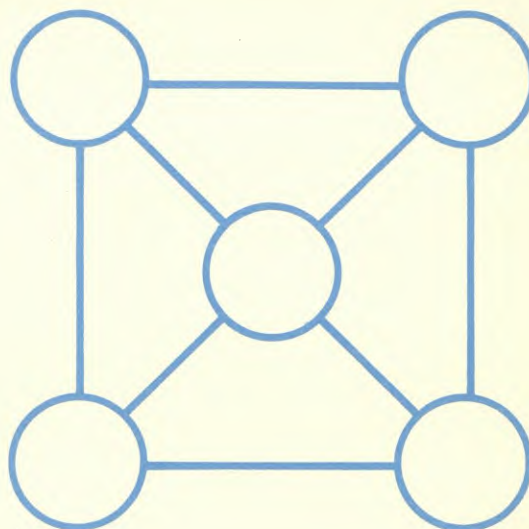
98 A **palindrome** reads the same backwards as forwards.

What must be added to each of these to make the next palindrome number?

- | | | | | |
|---------|---------|---------|---------|----------|
| 1. 172 | 2. 141 | 3. 194 | 4. 107 | 5. 893 |
| 6. 1036 | 7. 2111 | 8. 1932 | 9. 4679 | 10. 5006 |

99 Use the first five **triangle numbers**.

Arrange them in the diagram so that no line totals are **prime numbers**.



100 Put these in pairs so that each difference is a **square number**.

107

124

136

138

104

185

108

116

120

161

84

74

101 Use the signs +, - and ×.

Make each answer a **prime number**.

1. $17 \square 4 \square 5 \square 1$

3. $15 \square 3 \square 8 \square 6$

5. $6 \square 3 \square 5 \square 1$

7. $13 \square 4 \square 13 \square 1$

2. $20 \square 2 \square 12 \square 1$

4. $7 \square 7 \square 5 \square 1$

6. $9 \square 7 \square 2 \square 1$

8. $18 \square 9 \square 5 \square 15$

102 Put **consecutive numbers** in the boxes.

All the numbers are under 10.

1. $\square + \square - \square = 0$

3. $\square \times \square + \square = 50$

5. $\square \div \square \times \square = 1.5$

7. $\square \times \square \div \square = 7.2$

9. $\square \div \square \times \square = 3.75$

2. $\square + \square - \square = 5$

4. $\square \times \square - \square = 34$

6. $\square \times \square \div \square = 1.5$

8. $\square \div \square \times \square = 4.8$

10. $\square \times \square \div \square = 5.25$

103 When does a tree make least noise?

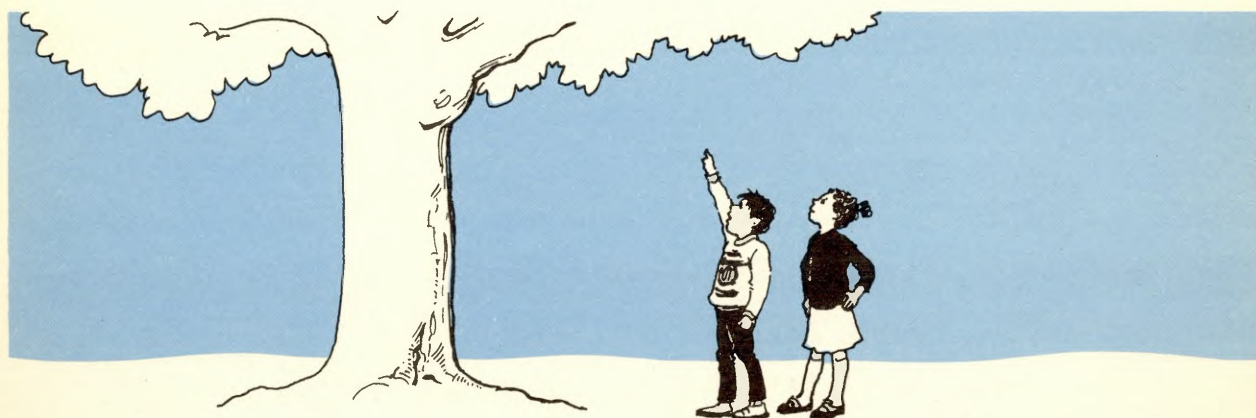
Use the table to find the answer.

A	B	E	H	I	K	L	N	O	R	S	T	W
288	168	360	209	306	361	391	529	225	289	528	336	495

$$\begin{array}{ccccccc} 33 \times 15 & 11 \times 19 & 24 \times 15 & 23 \times 23 & 17 \times 18 & 21 \times 16 & \end{array}$$

$$\begin{array}{ccccccc} 23 \times 17 & 15 \times 15 & 24 \times 22 & 12 \times 30 & 12 \times 44 & 34 \times 9 & 42 \times 8 & 11 \times 48 \end{array}$$

$$\begin{array}{cccc} 14 \times 12 & 18 \times 16 & 17 \times 17 & 19 \times 19 \end{array}$$



104 This table shows which letters the digits 0 to 9 stand for.

0	1	2	3	4	5	6	7	8	9
A	B	C	E	G	H	I	L	R	T

Work these out.

Change the answers to words.

Perhaps you have them all in your house!

1. 73×15

2. $2764 + 1329$

3. 2089×12

4. 153×9

5. $\frac{1}{2}$ of 10154

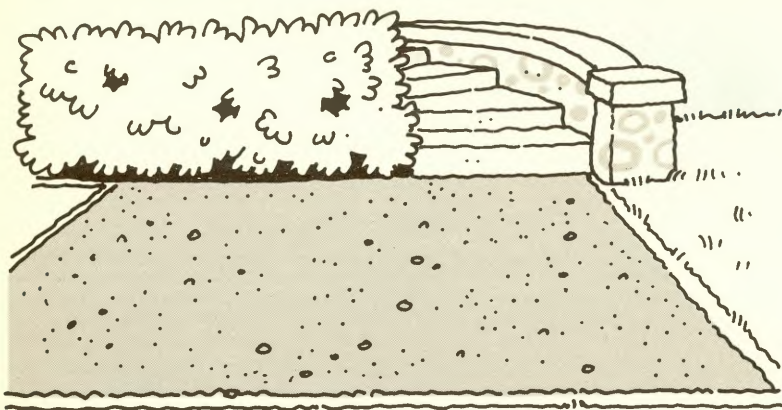
6. $73460 + 2999$

7. $(9017 \times 10) + 3$

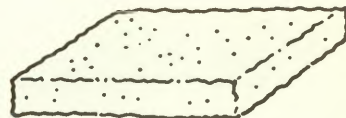
8. 2829×17

9. $(5000 \times 4) + 173$

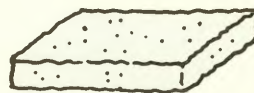
105 This patio measures 6 m by $3\frac{1}{2}$ m.



Paving stones



$\frac{3}{4}$ m by $\frac{1}{2}$ m £2 each



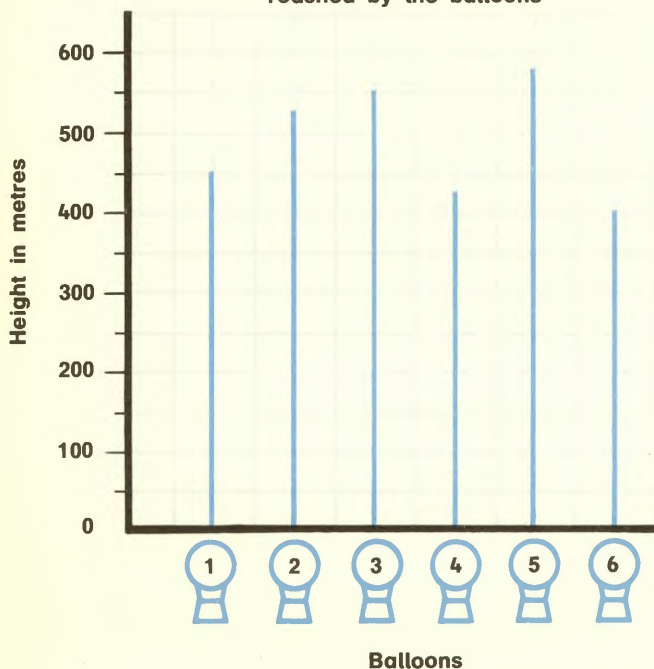
$\frac{1}{2}$ m by $\frac{1}{2}$ m £1.50 each

What is the least cost of covering the patio with paving stones?

106



Graph to show the maximum height reached by the balloons



The balloons rose at an average rate of 3 metres per minute.

How long did it take each balloon to reach its maximum height?
Write the answer to the nearest minute.



1.

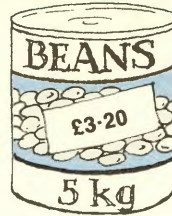


A

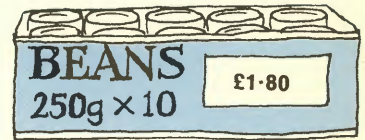


B

2.



A



B

3.

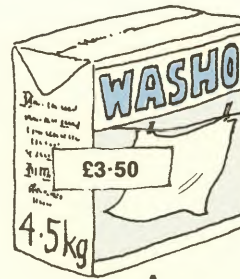


A

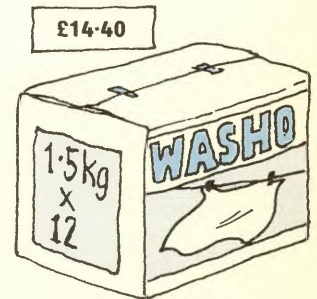


B

4.



A



B

5.



A

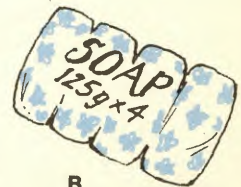


B

6.



A

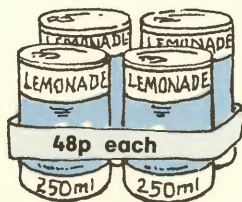


B

7.



A

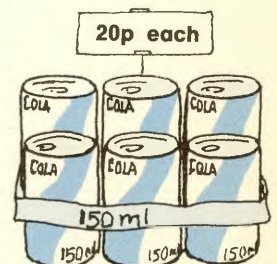


B

8.

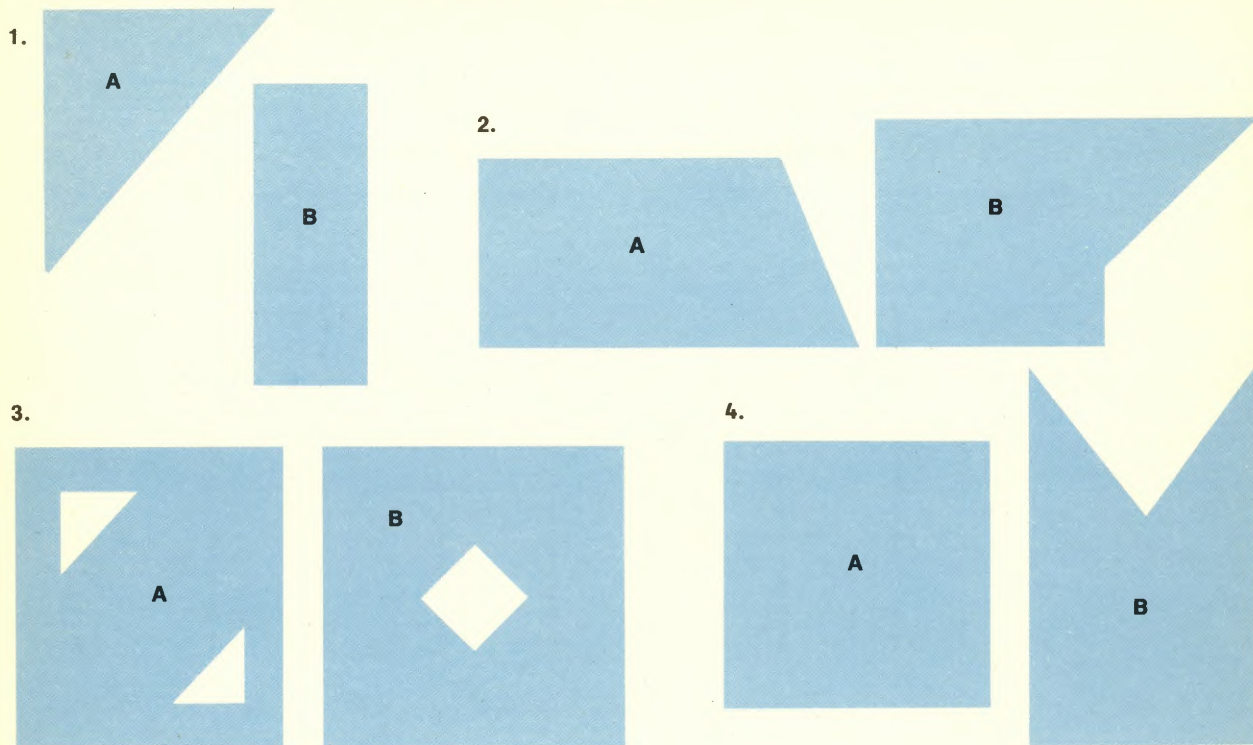


A

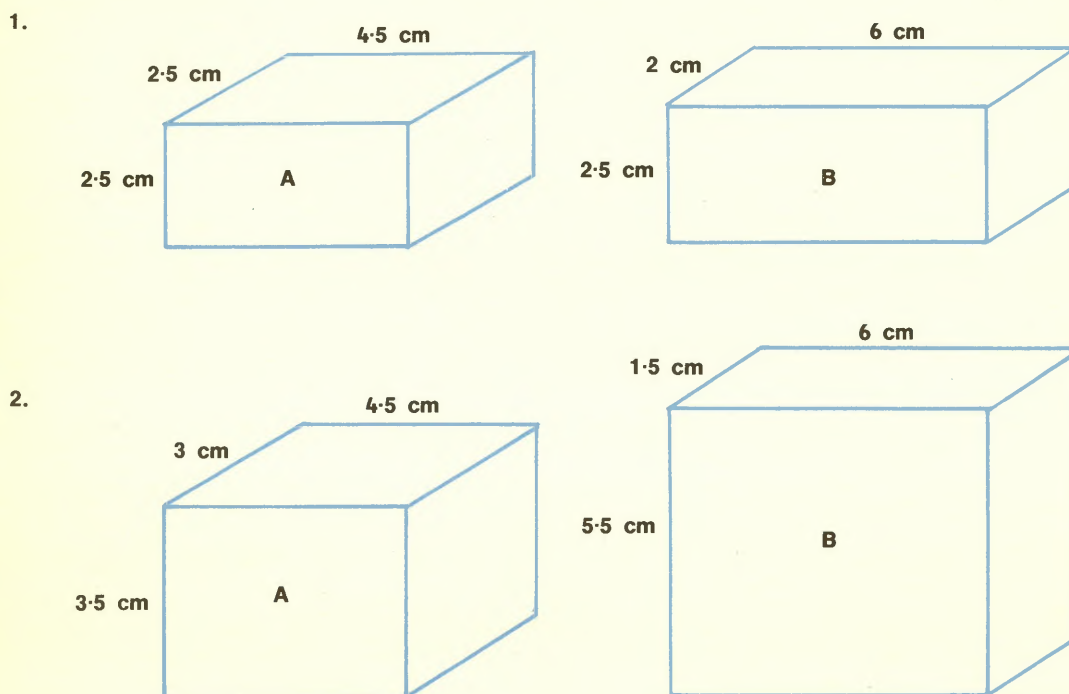


B

108 Which has the larger area in each pair?

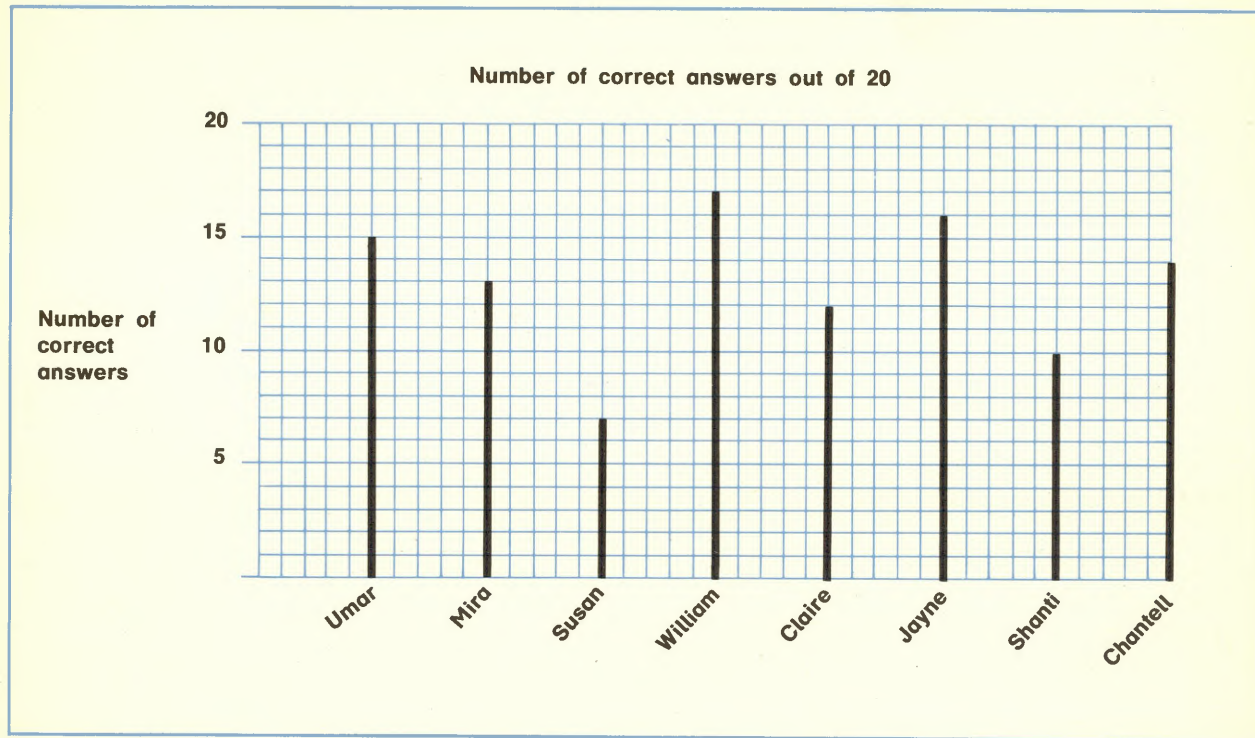


109 Which has the larger volume in each pair?



110 Eight children were given 20 mathematical problems to do.

Here is the result.



1. Find each child's score out of 20.
2. Write each child's score as a percentage.
3. Find the average score.
4. Which child was nearest the average?

111

1. How many days from 8 to 17 May?
2. How many days from 10 to 29 May?
3. What date was 16 days after 4 May?
4. What date was 3 weeks after 6 May?
5. What day was 30 April?
6. What day was 3 June?

MAY					
MONDAY	1	8	15	22	29
TUESDAY	2	9	16	23	30
WEDNESDAY	3	10	17	24	31
THURSDAY	4	11	18	25	
FRIDAY	5	12	19	26	
SATURDAY	6	13	20	27	
SUNDAY	7	14	21	28	

112 This table shows details of the growth of a tree over six years. Its height, diameter and girth were measured at the end of each year.

End of:	Height (in cm)	Diameter (in cm)	Girth (in cm)
1st year	132	3.2	10.6
2nd year	197	3.7	11.8
3rd year	287	4.3	13.7
4th year	336	5.9	18.8
5th year	401	6.9	21.9
6th year	468	7.6	23.8

Use a calculator to answer these.

1. In which year did the tree grow most in height?
2. In which year did the tree's diameter increase most?
3. In which year was the tree's height nearest to 20 times its girth?
4. In which year was the tree's height nearest to 50 times its diameter?



113 Find:

- | | | |
|----------------|-----------------|----------------|
| 1. 10% of £60 | 2. 20% of £45 | 5% of £120 |
| 4. 75% of £36 | 5. 90% of £150 | 6. 25% of £48 |
| 7. 15% of £105 | 8. 50% of £56 | 9. 80% of £140 |
| 10. 65% of £60 | 11. 30% of £240 | 12. 35% of £45 |

114

- 60% of a class of 30 children can swim.
How many children in the class cannot swim?
- In one day a child spends 10 hours sleeping, 2 hours eating and 6 hours on leisure.
What percentage of the day is left for other activities?
- A dress costing £18 is reduced by 10%.
What is the new price?
- A television costing £350 is reduced by 20%.
What is the new price?

115

CHARLIE'S CHINA SHOP

Beakers 80p each
Plates £2.50 each Jug £3.40
Cups £1.20 each Bowl £1.60
Saucers £1.00 each Teapot £10

Special offer

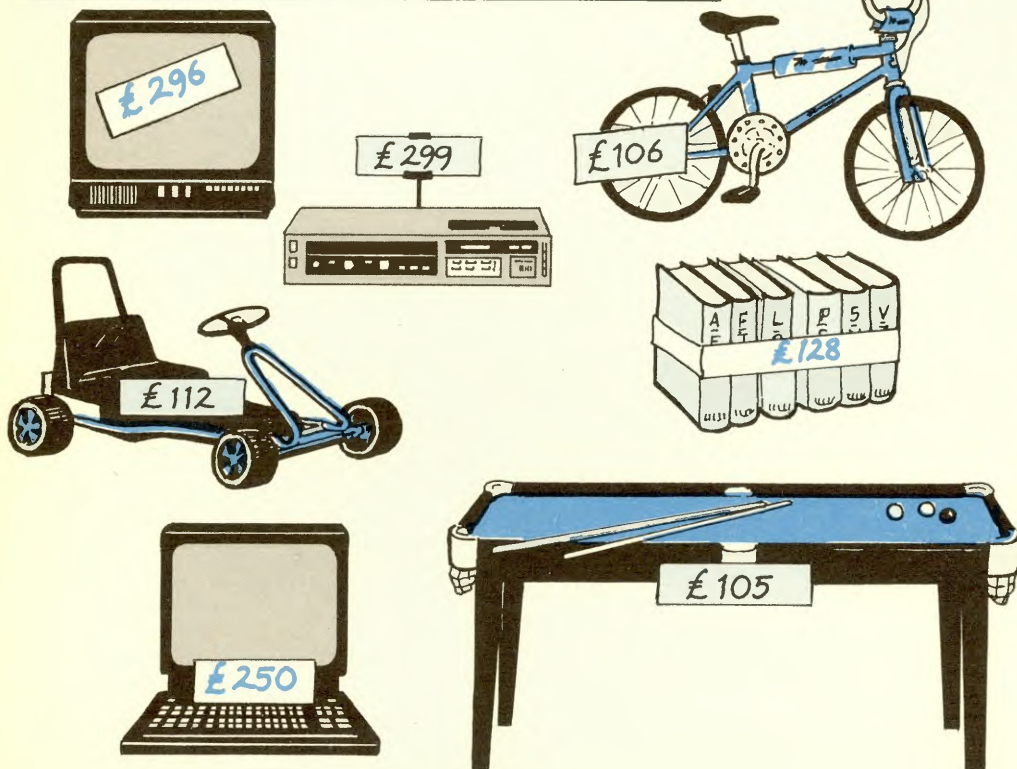
Spend between £5 and £10 and get 10% reduction.
Spend over £10 and get 20% reduction.

What is the cost of:

- one plate, one cup and one saucer?
- 4 cups and 4 saucers?
- a teapot and a bowl?
- a cup, a saucer, a plate, a beaker and a teapot?
- 2 plates, 2 cups and 2 saucers?
- 3 cups, 3 saucers, 3 plates, a bowl and a teapot?

116 Match each item with its new price.

ALL ITEMS REDUCED BY 10%



**NEW
PRICES**

£269.10
£115.20
£100.80
£225
£95.40
£266.40
£94.50

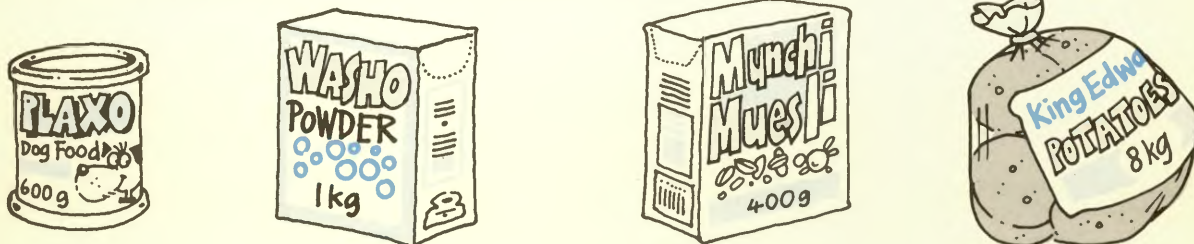
117 Take 20% from each of these.

Which give an answer which is an exact number of pounds?

- | | | | |
|----------|----------|----------|----------|
| A £30 | B £38.75 | C £23.30 | D £54 |
| E £15.50 | F £20 | G £21.25 | H £13.60 |
| I £32.50 | J £17 | K £23.10 | L £19.75 |

118 Increase each one by 15%.

What is its new weight?



119 Which one gives the larger answer in each pair?

Estimate first, then check.

1. A

$$\begin{array}{r} 264 \\ + 158 \\ \hline \end{array}$$

B

$$\begin{array}{r} 263 \\ + 157 \\ \hline \end{array}$$

2. A

$$\begin{array}{r} 194 \\ + 206 \\ \hline \end{array}$$

B

$$\begin{array}{r} 196 \\ + 205 \\ \hline \end{array}$$

3. A

$$\begin{array}{r} 174 \\ + 99 \\ \hline \end{array}$$

B

$$\begin{array}{r} 75 \\ + 199 \\ \hline \end{array}$$

4. A

$$\begin{array}{r} 54 \\ + 128 \\ \hline \end{array}$$

B

$$\begin{array}{r} 108 \\ + 63 \\ \hline \end{array}$$

5. A

$$\begin{array}{r} 107 \\ \times 6 \\ \hline \end{array}$$

B

$$\begin{array}{r} 215 \\ \times 3 \\ \hline \end{array}$$

6. A

$$\begin{array}{r} 485 \\ + 207 \\ \hline \end{array}$$

B

$$\begin{array}{r} 585 \\ + 108 \\ \hline \end{array}$$

7. A

$$\begin{array}{r} 96 \\ \times 3 \\ \hline \end{array}$$

B

$$\begin{array}{r} 31 \\ \times 9 \\ \hline \end{array}$$

8. A

$$\begin{array}{r} 801 \\ \times 3 \\ \hline \end{array}$$

B

$$\begin{array}{r} 240 \\ \times 10 \\ \hline \end{array}$$

120 Which gives the answer nearest to 100 in each group?

Estimate first, then check.

1. 2.9×30
 4.5×20
 8.1×10
 49.9×2

2. $72.9 + 17.2$
 $81.4 + 16.9$
 $22.9 + 67.9$
 $52 + 46.8$

3. $252 \div 3$
 $401 \div 4$
 $187 \div 2$
 $505 \div 5$

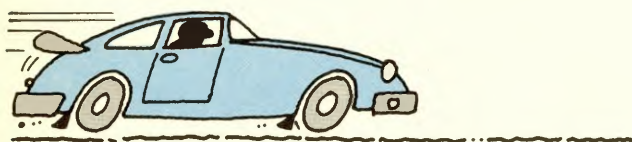
4. $158 - 50.6$
 $201 - 100.9$
 $144 - 45$
 $135 - 37.2$

5. $\frac{1}{2}$ of 202
 $\frac{1}{2}$ of 201.3
 $\frac{1}{2}$ of 199.9
 $\frac{1}{2}$ of 199

6. $\frac{1}{2}$ of 201
 $\frac{1}{3}$ of 301
 $\frac{1}{4}$ of 401
 $\frac{1}{5}$ of 501

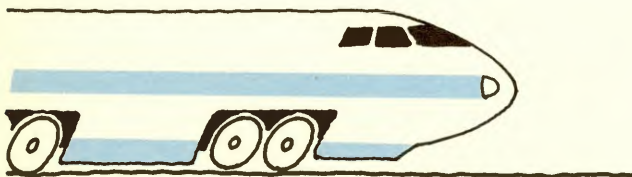
121 Estimate which is nearest to the speed.

1. Speed: 90 km per hour



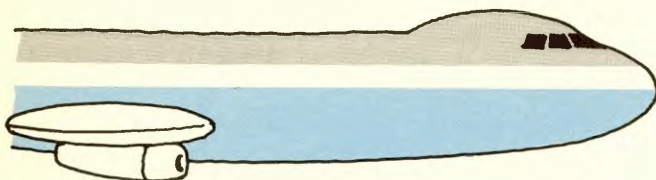
- A 500 m per minute
- B $1\frac{1}{2}$ km per minute
- C 15 km per minute

2. Speed: 200 km per hour



- A $3\frac{1}{4}$ km per minute
- B 30 km per minute
- C $1\frac{1}{2}$ km per minute

3. Speed: 1000 km per hour

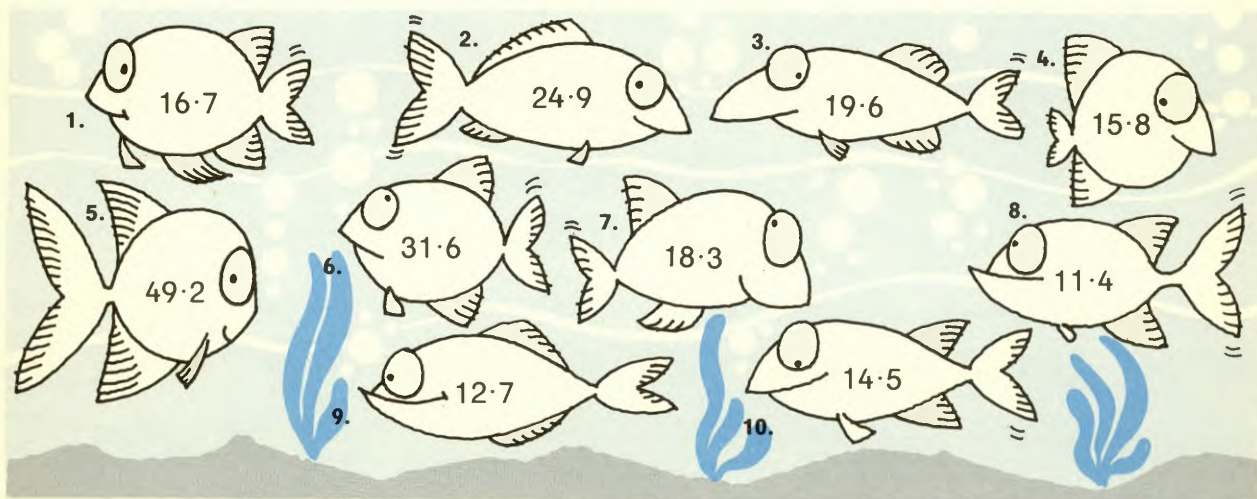


- A 16 km per second
- B $\frac{1}{4}$ km per second
- C 50 km per second

Check your estimates.

122 Multiply each of these by any whole number below 10.

Make the nearest answer to 100 that you can.



123 In each pair, estimate whether the second number is approximately 20, 30, 40 or 50 times as large as the first.

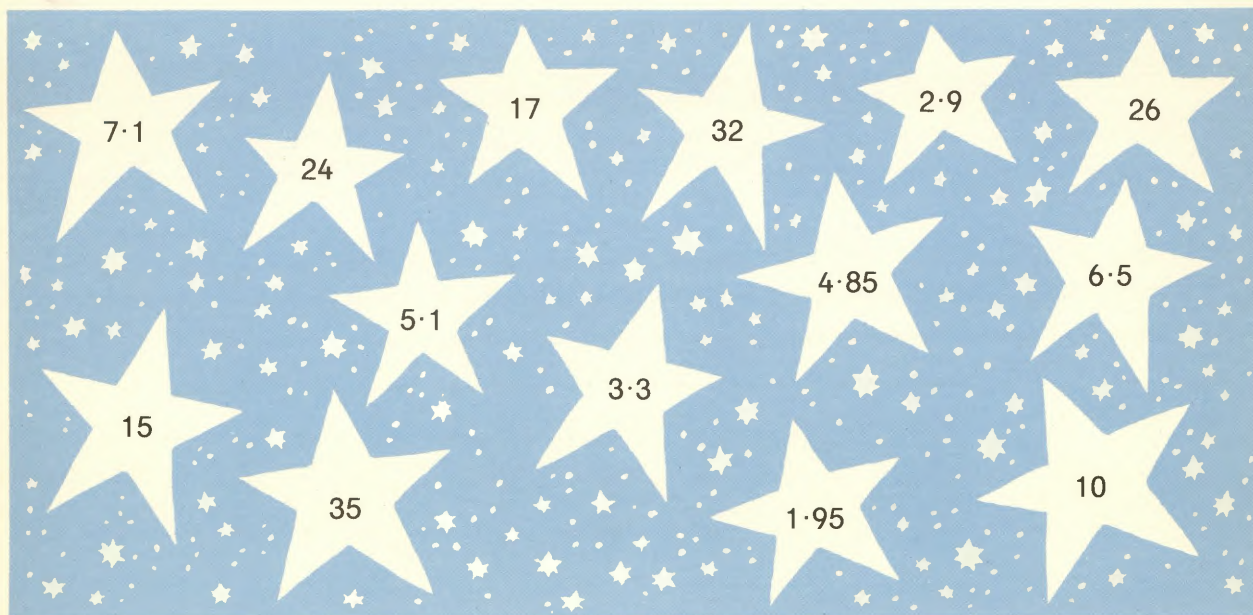
- | | | | |
|-----------------|----------------|----------------|----------------|
| 1. (1.7, 52) | 2. (2.15, 108) | 3. (0.95, 20) | 4. (1.93, 61) |
| 5. (7.8, 239) | 6. (4.01, 160) | 7. (1.45, 28) | 8. (6.1, 123) |
| 9. (0.76, 30) | 10. (0.13, 4) | 11. (1.71, 35) | 12. (0.61, 32) |
| 13. (11.3, 555) | 14. (9.7, 200) | 15. (1.5, 62) | 16. (0.58, 29) |

Check whether you were right.

124 Choose the answer you think is right, then check.

- | | | |
|--|---|--|
| 1. 1.7 doubled is
(a) 0.34
(b) 3.4
(c) 1.34 | 2. Half of 0.76 is
(a) 0.38
(b) 0.35
(c) 1.38 | 3. 11.9 divided by 5 is
(a) 1.38
(b) 2.4
(c) 2.38 |
| 4. 6 km an hour is the same as
(a) 1 km a minute
(b) $\frac{1}{5}$ km a minute
(c) $\frac{1}{10}$ km a minute | 5. $\frac{1}{4}$ of $1\frac{1}{2}$ l is
(a) 375 ml
(b) $\frac{3}{4}$ ml
(c) 250 ml | 6. $\frac{1}{8}$ of 13 kg is
(a) 2.125 kg
(b) 1.625 kg
(c) 1.5 kg |

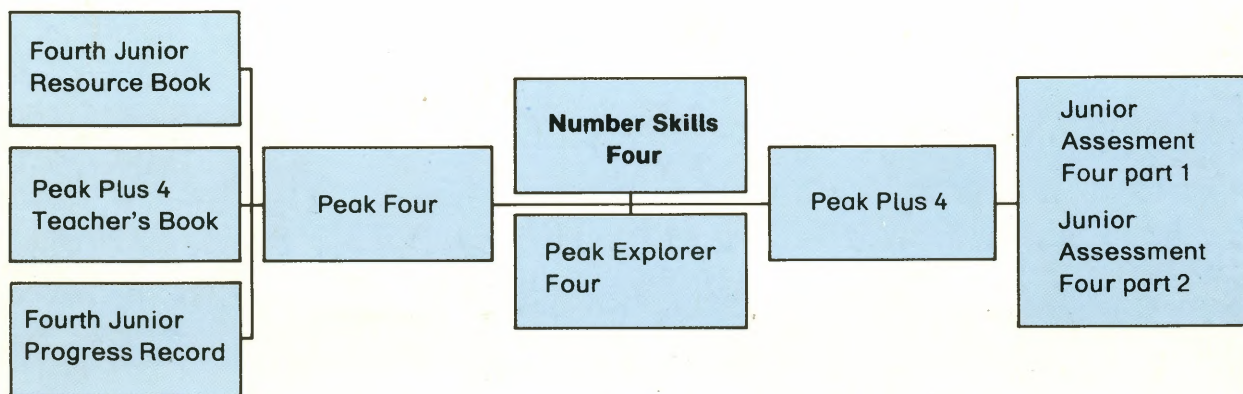
125 Choose pairs of numbers where one is approximately 5 times the other.



New Peak Mathematics provides structure and continuity of mathematics for the full primary age range and into early secondary.

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This diagram shows the materials available for year 6 (Y6).

This structure is reflected in all the New Peak materials for Year 3 (Y3) to Year 6 (Y6).



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