



Name Class Date

INEOS TEAM UK is planning to install solar panels on their base to generate electricity. Using renewable energy will help make the team's base more sustainable.



James Stagg: Head of Operations at INEOS TEAM UK

James raced in the 2003 America's Cup with GBR Challenge. He is responsible for the base and the team's operations. Help James plan a solar array for the INEOS TEAM UK base.

1 Your job is to design the solar array, fitting as many solar panels on the roof as possible. What is the total area you can fill with solar panels?

- a** Draw squares or rectangles on the base plan to cover as much available space as possible with solar panels. Keep the paved terraces, service ducts, and skylight clear.
- b** Count the number of grid squares that you will cover in solar panels.
Total number of squares:
- c** Each square on the scale drawing represents 1m^2 in real life.
..... squares = m^2
- d** Each solar panel is 2m^2 . How many solar panels will you need?
..... panels

2 How much electricity can your solar array produce?

- a** At maximum output, each solar panel can produce 200W of electrical power. How much total power can your array produce?

..... panels x 200W/panel = W

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b Solar arrays will not produce this much power all the time. Why?

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3 Solar panels cost £600 each. What is the total cost of your array?

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