

# Revision Booklet 5

## Topics

1. Time Speed & Distance
2. Density, Mass & Volume
3. Trial and Improvement
4. Angles in a Polygon
5. Surface Area & Volume
6. Transformations
7. Probability

Name \_\_\_\_\_

1. A train travels at 102 m.p.h for 1 hour and 6 minutes.  
What distance will it travel in this time?

2. If a cyclist travels a distance of 7 miles in 23 minutes,  
what is the cyclist's speed?

3. How long will it take a plane travelling at 50  
metres/second to travel a distance of 135 km?

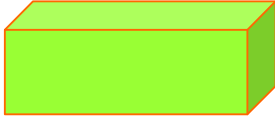
4. A block of gold has a mass of 1.4475 kg. Its dimensions  
are: length = 10 cm, height = 2.5 cm and width = 3 cm.



Calculate the density of gold in  $\text{grams/cm}^3$ .



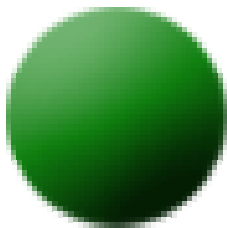
8. Calculate the volume and surface area of a cuboid that has the following dimensions length = 10 cm, height = 2.5 cm and width = 3 cm.



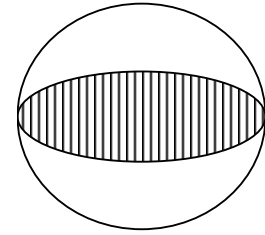
9. Calculate the surface area and volume of a cone with a height 4 cm, base radius 3 cm and slope length 5 cm.



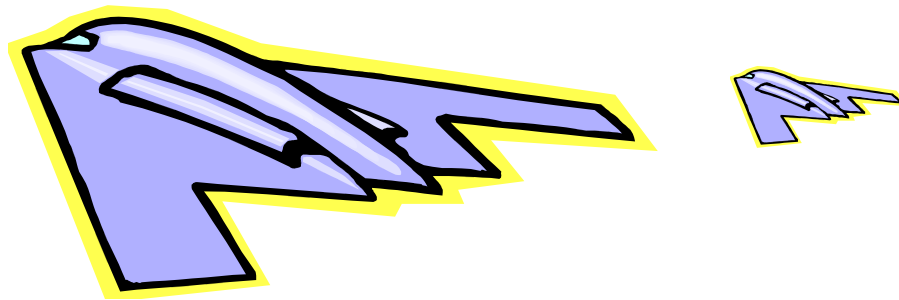
10. Calculate the surface area and volume of a sphere with a diameter of 20 cm



11. A hemisphere is the name for half of a sphere. What is the total surface area of a hemisphere with a radius of 10 cm?

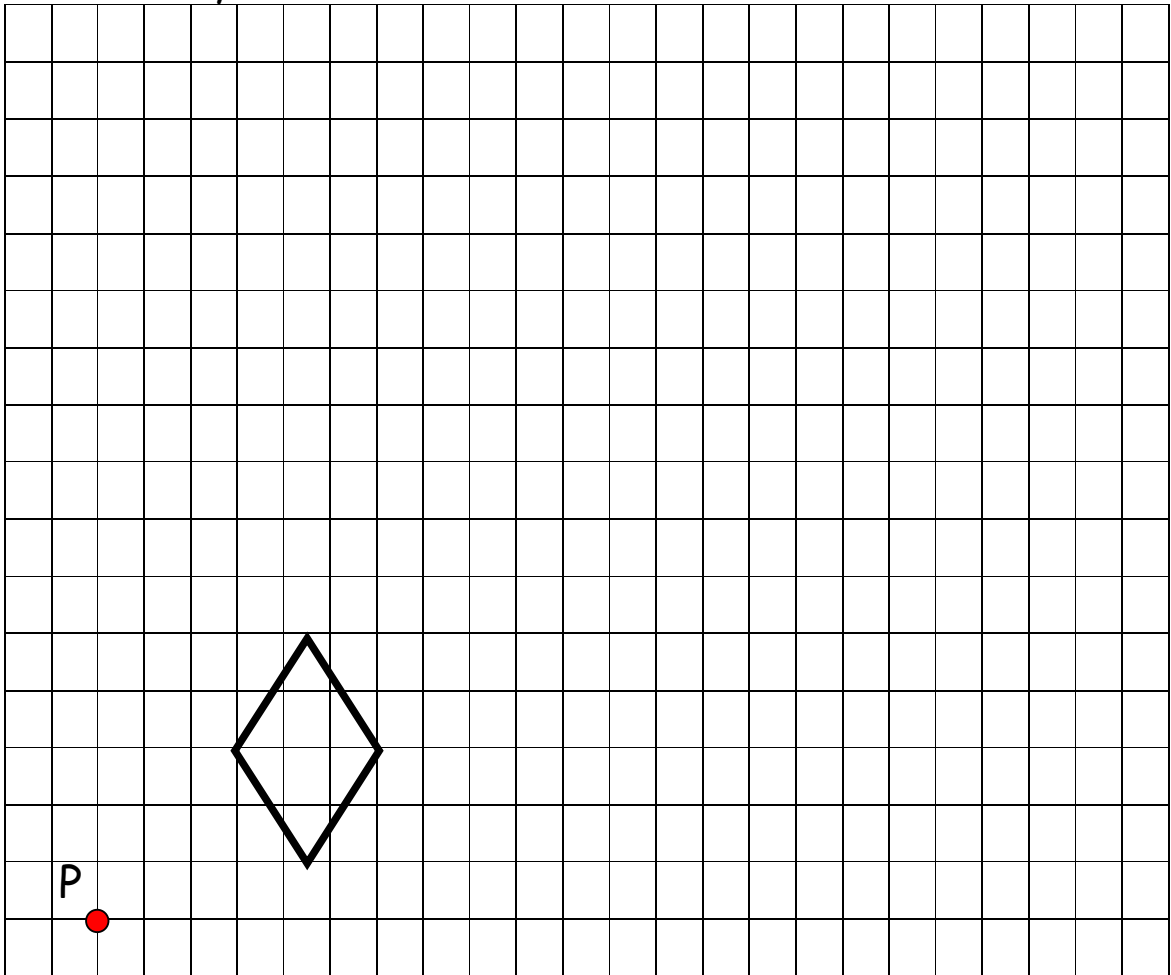


12.



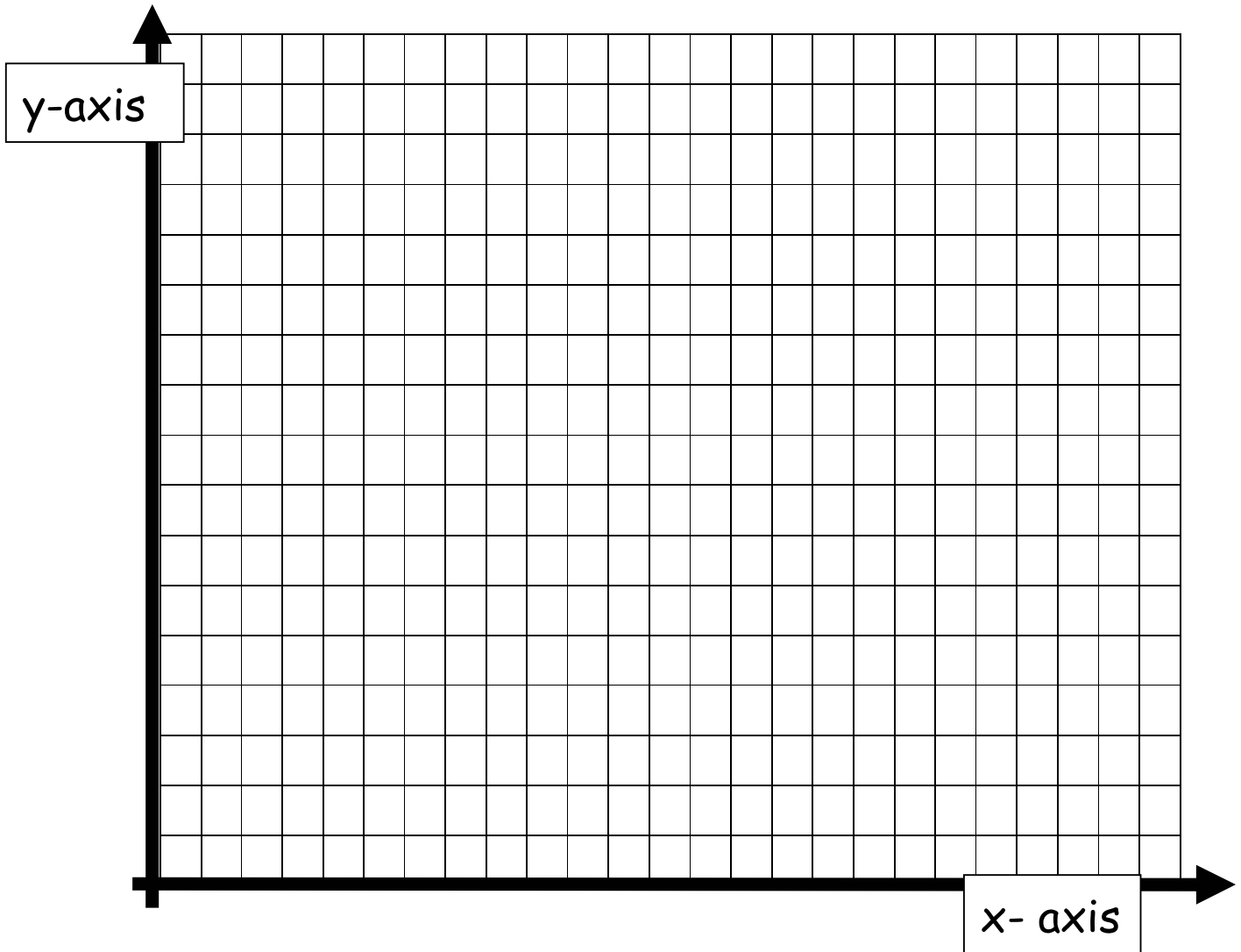
The linear scale of a model plane is  $\frac{1}{4}$  of the real plane. If 2.5 litres of paint is required to paint the model, how much paint is needed to paint the real plane?

13. Using point P as the centre of enlargement, enlarge the rhombus by a scale factor of 3.



14. The probability of rain is 15% in London and 28% in Manchester. Using a tree diagram, calculate the probabilities of

- a. Rain in London and Manchester
- b. Rain in London or Manchester



15. On the grid above, draw triangle  $ABC$  with  $A(4, 5)$   $B(4, 10)$  and  $C(7, 5)$ .

- Rotate this triangle  $180^\circ$  about the point  $(11, 5)$  and label this triangle  $A'B'C'$ .
- Reflect  $A'B'C'$  in the line  $y = 8$  and label this reflected triangle  $A''B''C''$ .
- Reflect  $A''B''C''$  in the line  $x = 11$  and label this reflected triangle  $A'''B'''C'''$ .
- What translation maps  $A'''B'''C'''$  onto  $ABC$ ?