

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?

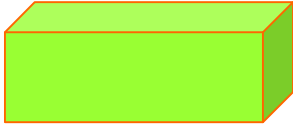
3. How long will it take a plane travelling at 50
metres/second to travel a distance of 135 km?

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 grams/cm^3 .

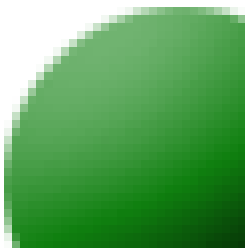
8. Calculate the volume and surface area of a cuboid that has the following dimensions length = 10 cm, height = 2.5 cm and width = 3 cm.



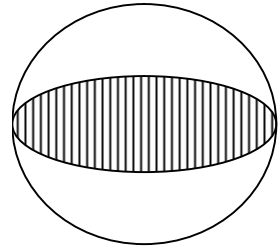
9. Calculate the surface area and volume of a cone with a height 4 cm, base radius 3 cm and slope length 5 cm.



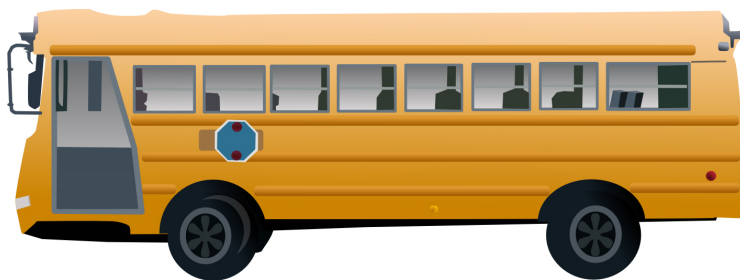
10. Calculate the surface area and volume of a sphere with a diameter of 20 cm



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?

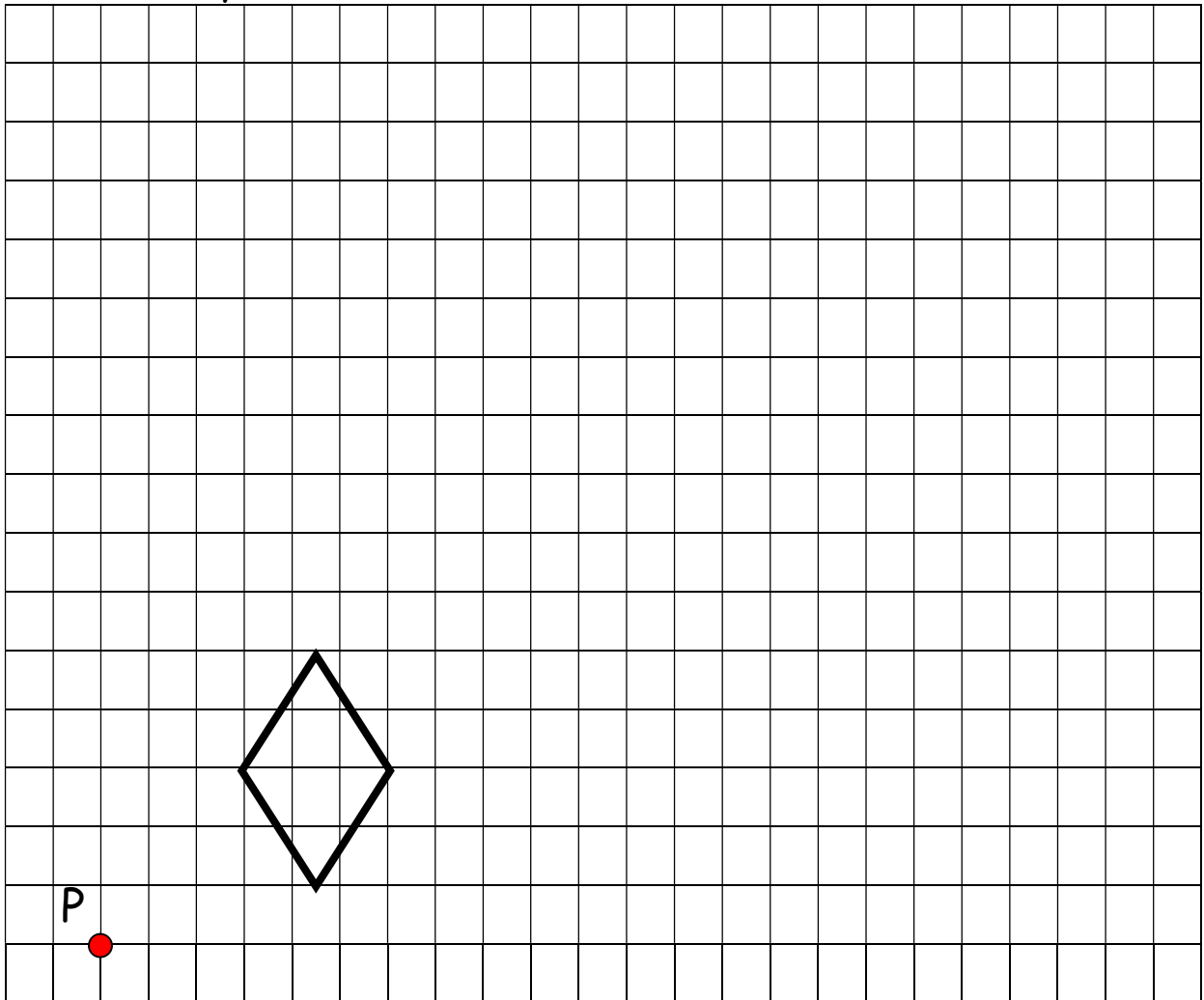


12.



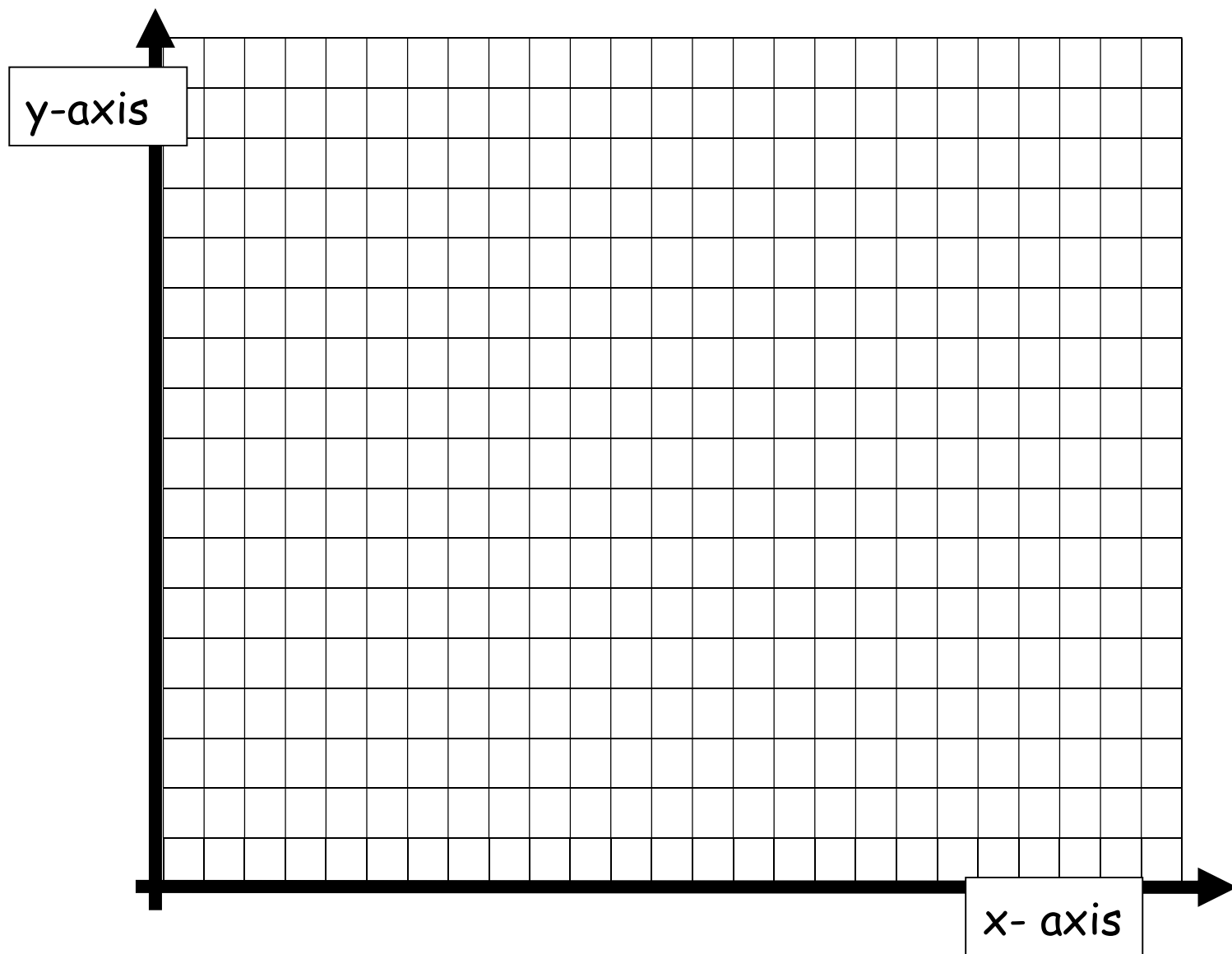
The linear scale of a model bus is $\frac{1}{4}$ of the real bus. If 2.5 litres of paint is required to paint the model, how much paint is needed to paint the real bus?

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° 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 ?