13+ Maths Paper

Sample Questions

Exam is 1 hour

No Calculator

Equipment required: Ruler, pen and pencil

Attempt all the questions. SHOW ALL YOUR WORKINGS

1 Work out:

(a) $^{-}13 + 5$

(b) $^{-}5 - 6$

(c) $3 + {}^{-}8$

(d) $^{-}12 - {}^{-}23$

2 Work out

(a) $8 \times {}^{-}7$

(b) $^{-}28 \div {}^{-}4$

(c) $3 \times {}^{-}5 \times {}^{-}10$

(d) $(21 + {}^{-}6) \times {}^{-}2$

3 Write down all the factors of 24.

4 Write 36 as a product of its prime factors.

5 Work out:

(a) 2^4

(b) 4^3

6 Simplify:

(a) $5x + 7x$

(b) $8x + 3y + 9x – 3y$

(c) $6p – 2q – 4p$ + q

(d) m x m x m x m

(e) $3xw$ x $5yz$

(f) $y^{12} \div y^4$

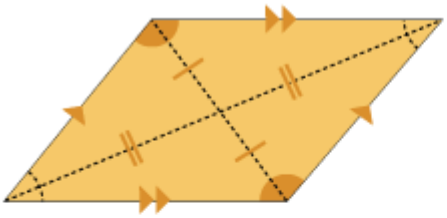
7 Expand the bracket: $3(4a – 7c)$

8 Factorise: $15x + 40$

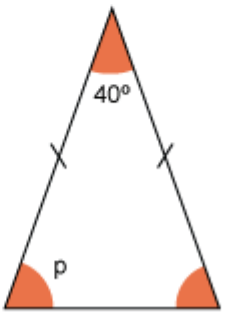
11 Work out the following, simplifying your answers where possible:

(a) $\frac{4}{5} + \frac{7}{15}$ (b) $\frac{3}{4} \times \frac{7}{9}$

8. What are these shapes?



9. What size is angle p?



10 Factorise: $15x + 40$

11 Work out the following, simplifying your answers where possible:

(a) $\frac{4}{5} + \frac{7}{15}$ (b) $\frac{3}{4} \times \frac{7}{9}$

12 10 students were asked how many packets of crisps they ate during last week.

2, 5, 7, 2, 4, 3, 4, 4, 0, 4,

Calculate:

(a) the mean,

(b) the mode.

13 Solve the following equations

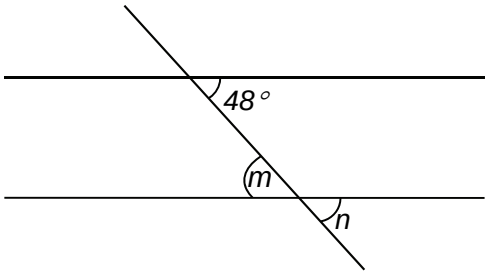
(a) $5x - 4 = 26$

(b) $\frac{x}{} = 4$

(c) $3 (x + 7) = 45$

14. Divide £480 in the ratio 3 : 5.

15.



(a) Work out the size of angle *m*. Give a reason for your answer.

(b) Work out the size of angle *n*. Give a reason for your answer.

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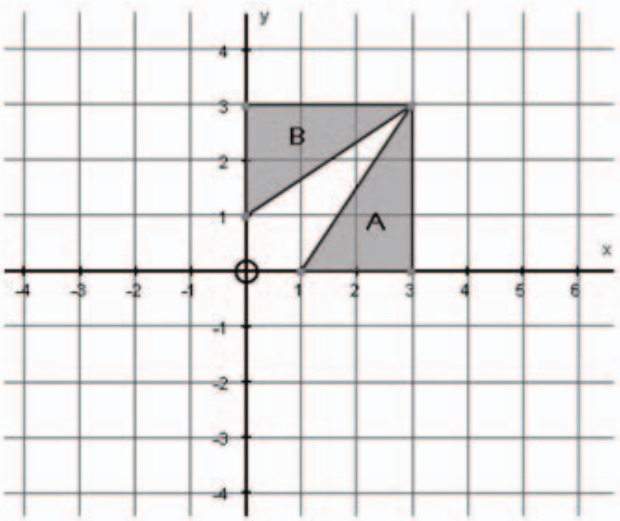

(a) Rotate **shape A** 90° clockwise about the origin. Label the image P.

(b) Translate **shape A** by $\begin{pmatrix} 3 \\ -2 \end{pmatrix}$. Label the image Q.

(c) Describe fully the **single** transformation which maps shape A onto shape B.

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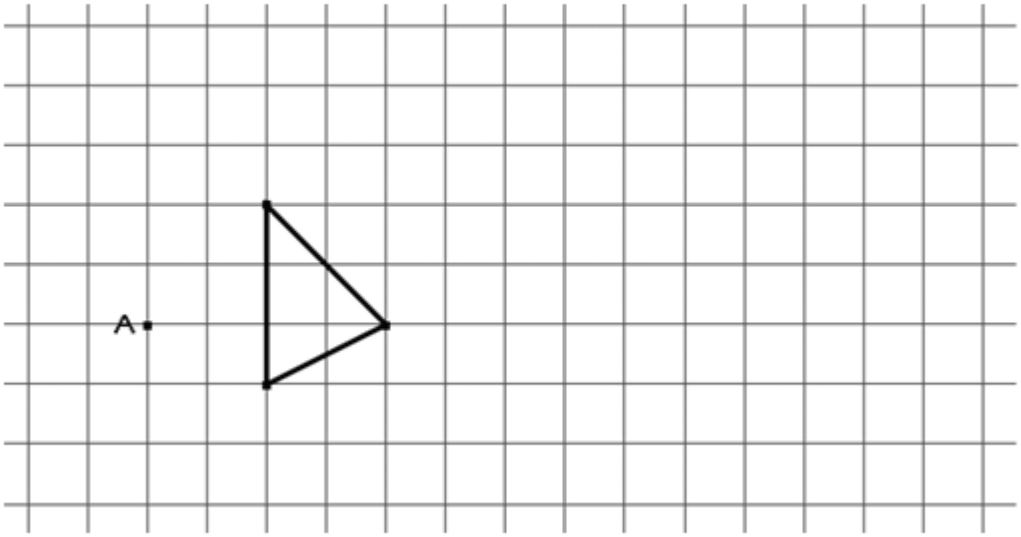
Enlarge the triangle by scale factor 2.
Use point A as the centre of enlargement.



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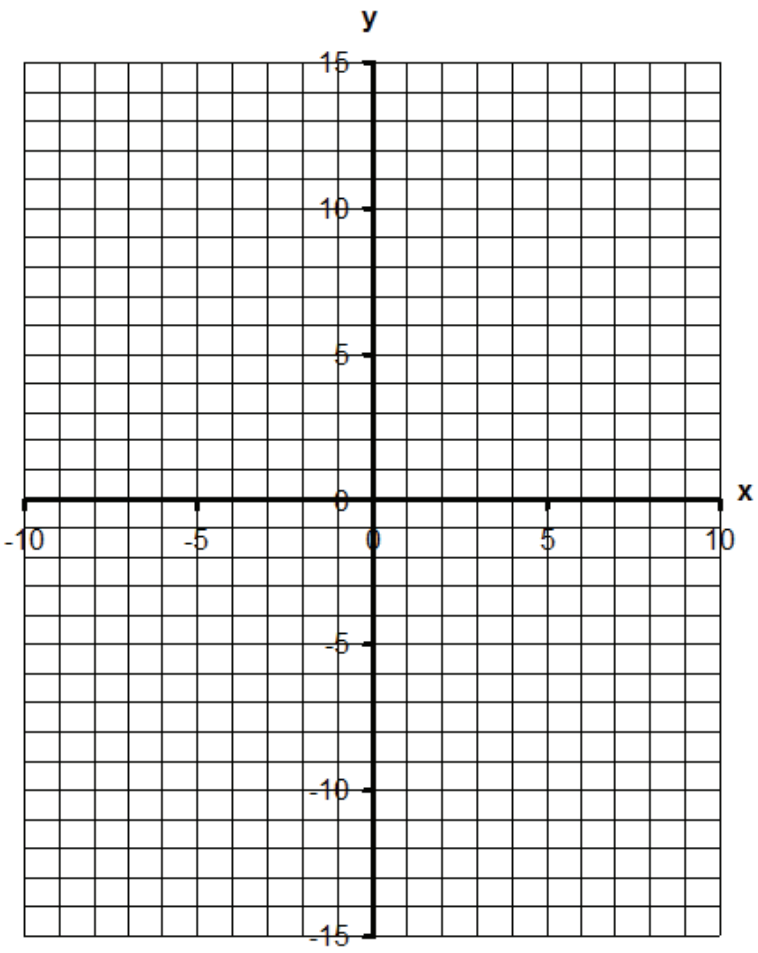
For the equation $y = 3x + 1$, complete the table of values, then draw the graph.

x	-4	-3	-2	-1	0	1	2	3	4
y		-8			1		7		



END OF TEST