

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) $m \times m \times m \times m$

(e) $3xw \times 5yz$

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

7 Expand the bracket: $3(4a - 7c)$

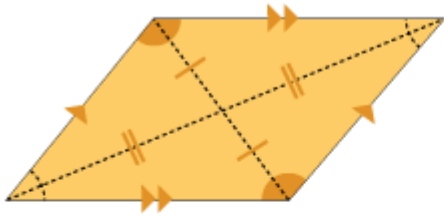
8 Factorise: $15x + 40$

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

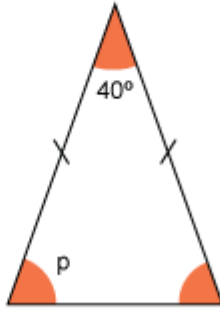
(a) $\frac{4}{5} + \frac{7}{15}$

(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

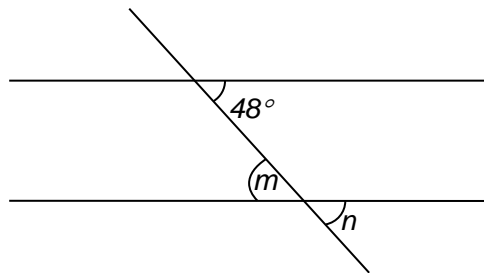
(a) $5x - 4 = 26$

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

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

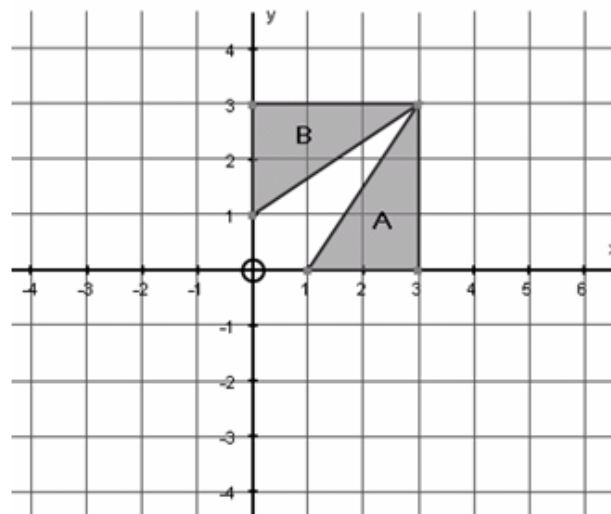
14. Divide £480 in the ratio 3 : 5.

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.



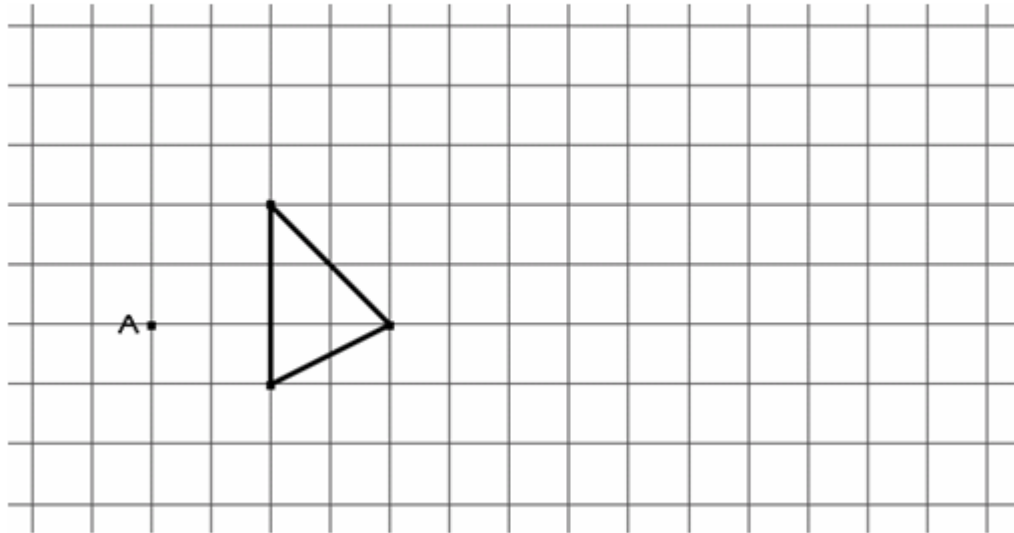
- (a) Rotate **shape A** 90° clockwise about the origin. Label the image P.
- (b) Translate **shape A** by $\begin{pmatrix} 3 \\ -2 \end{pmatrix}$. Label the image Q.
- (c) Describe fully the **single** transformation which maps shape A onto shape B.

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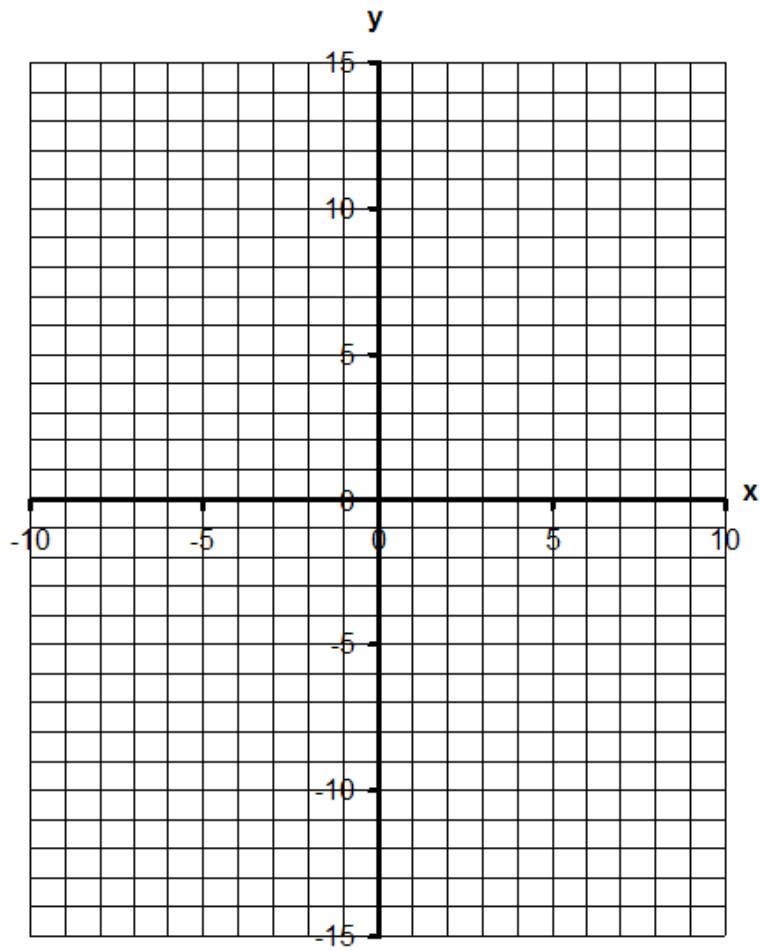
Enlarge the triangle by scale factor 2.
Use point A as the centre of enlargement.



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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