

SUBJECT: Maths – Y9 Higher

UNIT:

Transformations



Key Concept

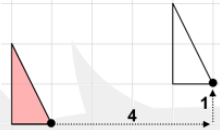
Reflection



Rotation



Translation



Key Words

Co-ordinate: A pair of numbers which describe the position on a grid.

Transformation: This means the shape has 'changed'.

Reflection: This means a shape has been flipped.

Rotation: This means a shape has been turned.

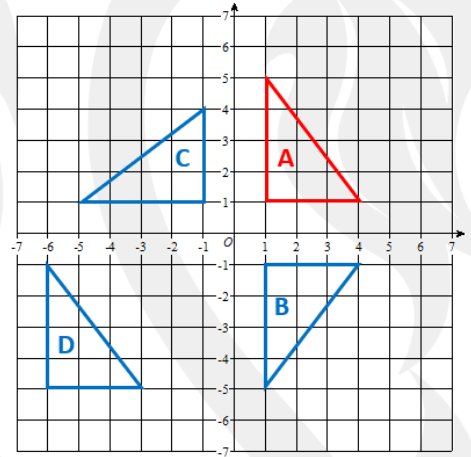
Translation: This means a *movement* of the shape.

Examples

a) Reflect A in the x-axis, label it B.

b) Rotate A 90°, anti-clockwise about (0,0), label it C.

c) Translate A in the vector $\begin{pmatrix} -7 \\ -6 \end{pmatrix}$, label it D.



Questions

Draw a grid like the one above.

Plot a triangle with vertices (6,2), (3, 2) and (4, 5).

a) Reflect the triangle in the y-axis. b) Translate the triangle $\begin{pmatrix} -3 \\ -4 \end{pmatrix}$

SUBJECT: Maths

UNIT:

Ratio

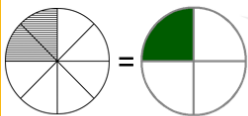


Key Concept

2 parts \rightarrow 2:6 \leftarrow 6 parts

=

1:3



= $\frac{1}{3}$

Key Words

Ratio: Relationship between two numbers.

Part: This is the numeric value '1' of, would be equivalent to.

Simplify: Divide both parts of a ratio by the same number.

Equivalent: Equal in value.

Convert: Change from one form to another.

Examples

Simplify 60 : 40 : 100

$\div 10$

This could have been done in one step by dividing by 20.

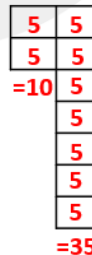
6 : 4 : 10

$\div 2$

3 : 2 : 5

Share £45 in the ratio 2 : 7

2 : 7



$45 \div 9 = 5$

£10 : £35

Write 2 : 5 in the form 1 : n

2 : 5

$\div 2$

1 : 2.5

$\div 2$

Joy and Martin share money in the ratio 2 : 5. Martin gets £18 more than Joy. How much do they each get?

2 : 5



$18 \div 3 = 6$

£12 : £30

$=12 = 30$

Questions

- Simplify a) 45 : 63 b) 66 : 44 c) 320 : 440
- Write in the form 1 : n a) 5 : 10 b) 4 : 6 c) $x : x^2 + x$
- Share 64 in the ratio 3 : 5 4) Write the ratio 1 : 4 as a fraction.