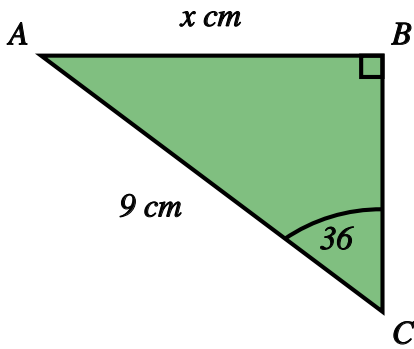


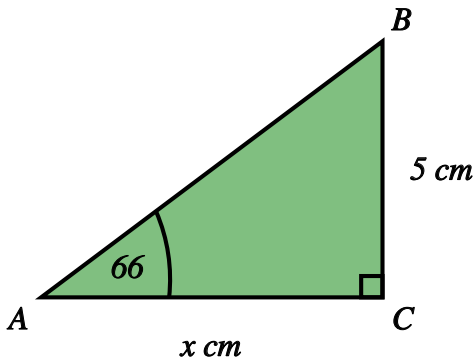
Trig, Stats, Transform and Proportionality

Name:	Class:	Date:
Mark		/ 20 %

1) Find x in the triangle below, giving your answer to 3 significant figures. [1]

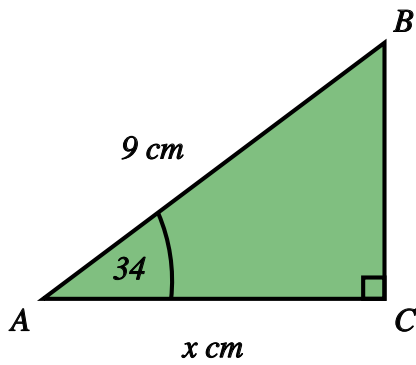


2) Find x in the triangle below, giving your answer to 3 significant figures [1]



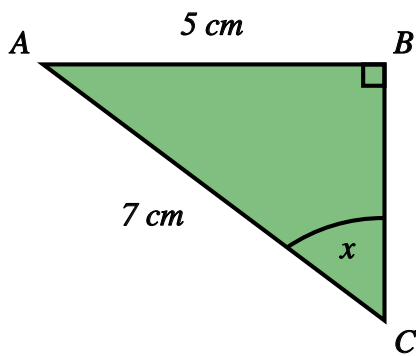
3) Find x in the triangle below, giving your answer to 3 significant figures.

[1]



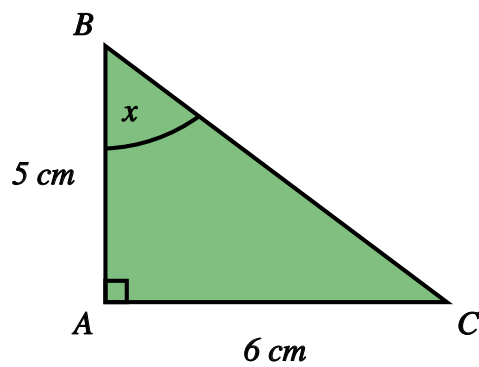
4) Find angle x in the triangle below, giving your answer to 1 decimal place.

[1]



5) Find angle x in the triangle below, giving your answer to 1 decimal place.

[1]



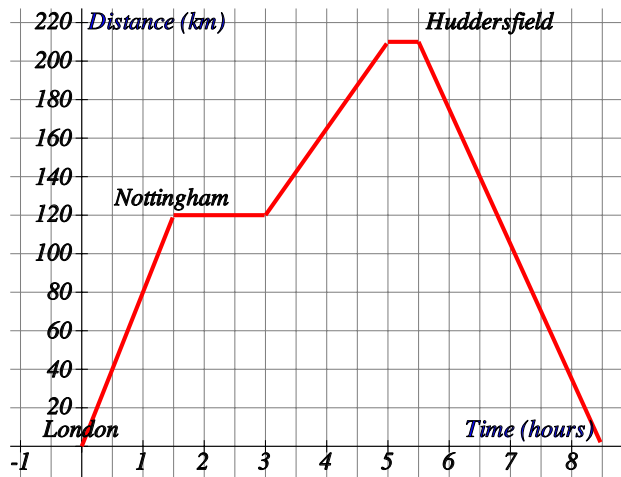
6) A safe angle for a ladder is about 75° from the ground.

[1]

If you have a 3.3 metre ladder, how high can it reach up a wall?

Round your answer to 3 significant figures.

7) The distance-time graph below shows the journey a business man made from London to Huddersfield via Nottingham. (Leave answers to nearest whole number where necessary).

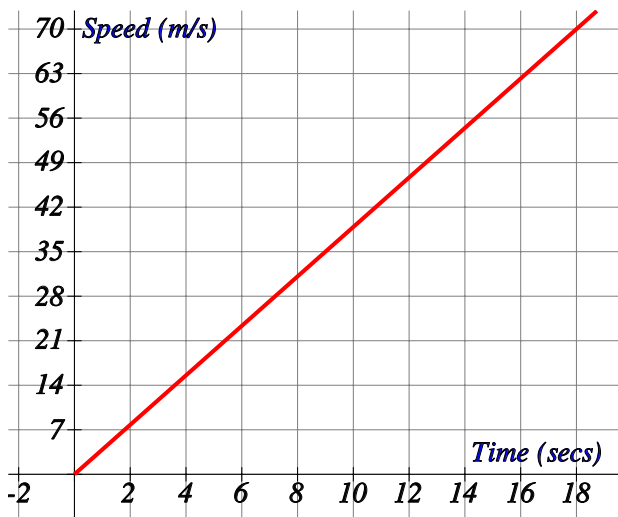


Find

- the distance to Nottingham.
- the time he spent in Nottingham.
- at what speed he travelled from Nottingham to Huddersfield.
- his average speed over the whole journey.

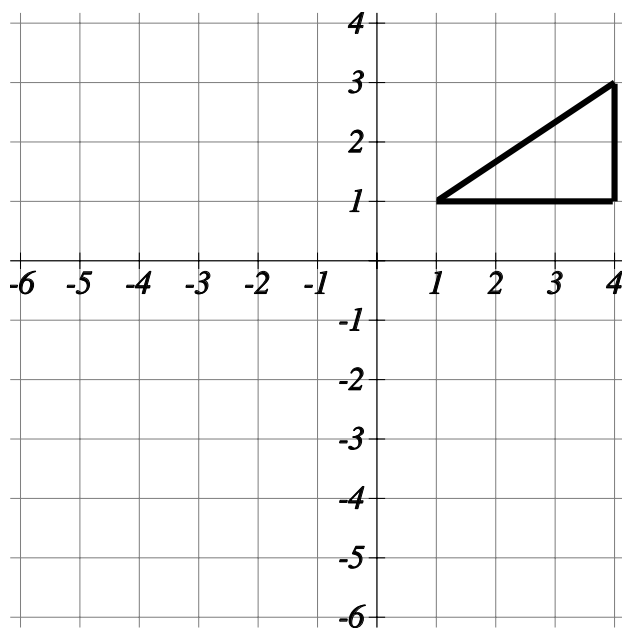
[1]

8) The speed-time graph below shows the acceleration of a Aston Martin DB9. Find an estimate for the acceleration leaving your answer to 1 decimal place.



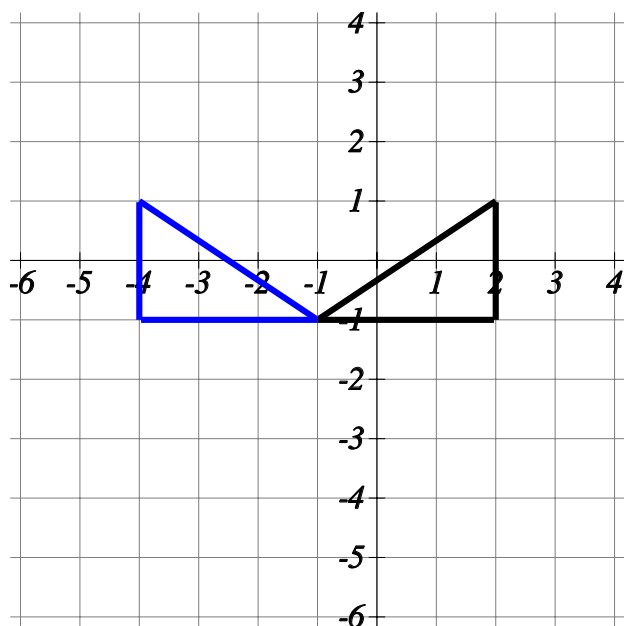
[1]

9) Reflect the shape in the line $x = -1$.



[1]

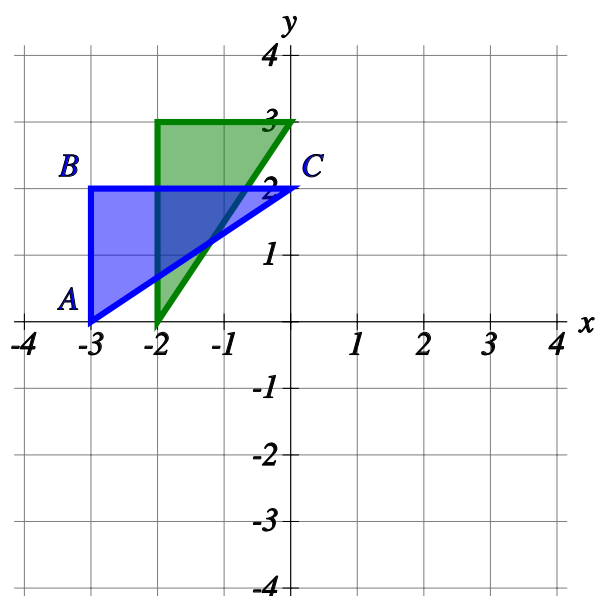
10) Draw the line of reflection that maps the object to its image in the diagram below



11) Fully describe the single transformation from the triangle ABC to its image

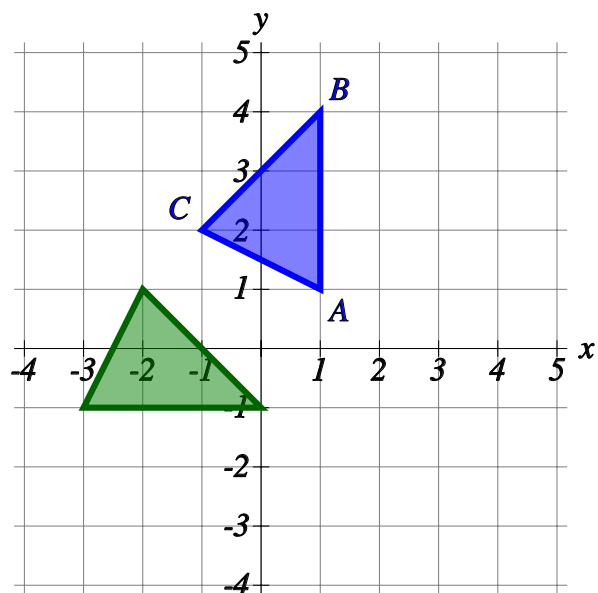
[1]

[1]

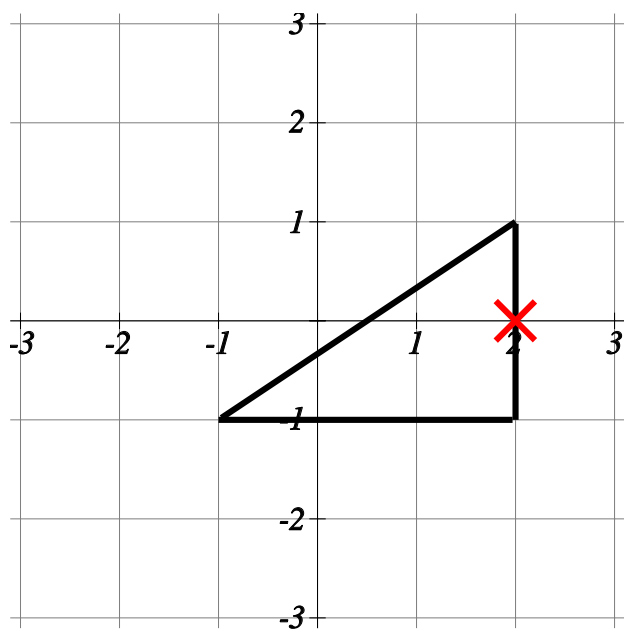


12) Fully describe the single transformation from the triangle ABC to its image

[1]

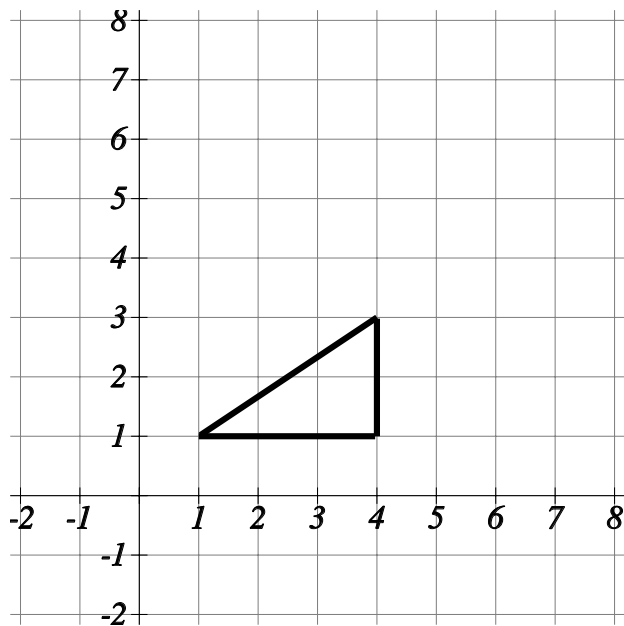


13) Rotate the shape 90° anti-clockwise about centre (2,0).



[1]

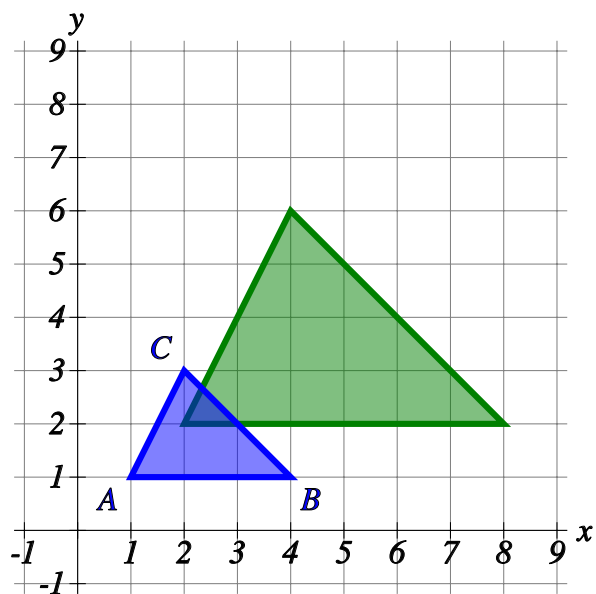
14) Translate the shape by the vector $\begin{pmatrix} 1 \\ 2 \end{pmatrix}$.



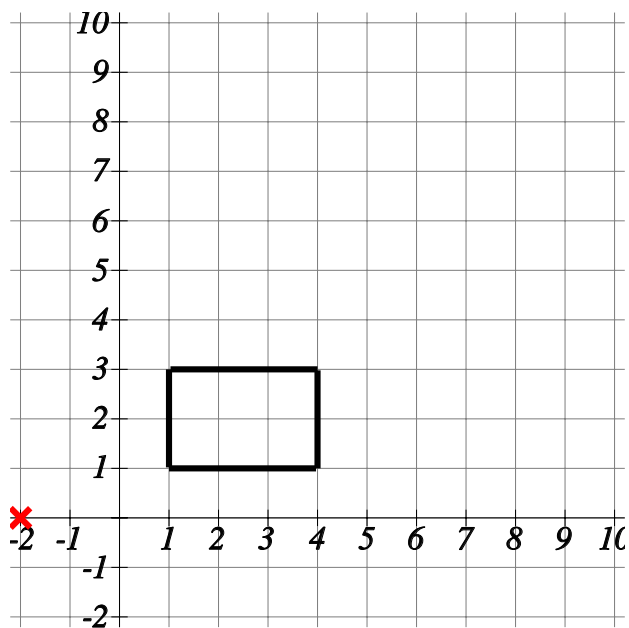
[1]

15) Fully describe the single transformation from the triangle ABC to its image

[1]



16) Enlarge the shape from centre $(-2,0)$ by scale factor 2.



17) If b is proportional to a and $b = 4$ when $a = 2$. Find

[1]

[1]

a) the formula for b in terms of a

b) the value of b given $a = 8$

c) the value of a given $b = 18$

18) If $c \propto b^2$ and $c = 100$ when $b = 5$. Find

[1]

a) the formula for c in terms of b

b) the value of c given $b = 8$

c) the value of b given $c = 324$

19) If x varies inversely as w and $x = 1$ when $w = 12$. Find

[1]

a) the formula for x in terms of w

b) the value of x given $w = 4$

c) the value of w given $x = 6$

20) If n varies inversely as the root of m and $n = 7$ when $m = 16$. Find

[1]

a) the formula for n in terms of m

b) the value of n given $m = 25$

c) the value of m given $n = 2\frac{4}{5}$

Solutions for the assessment Trig, Stats, Transform and Proportionality

1) $x = 5.29$ cm

2) $x = 2.23$ cm

3) $x = 7.46$ cm

4) $x = 45.6^\circ$

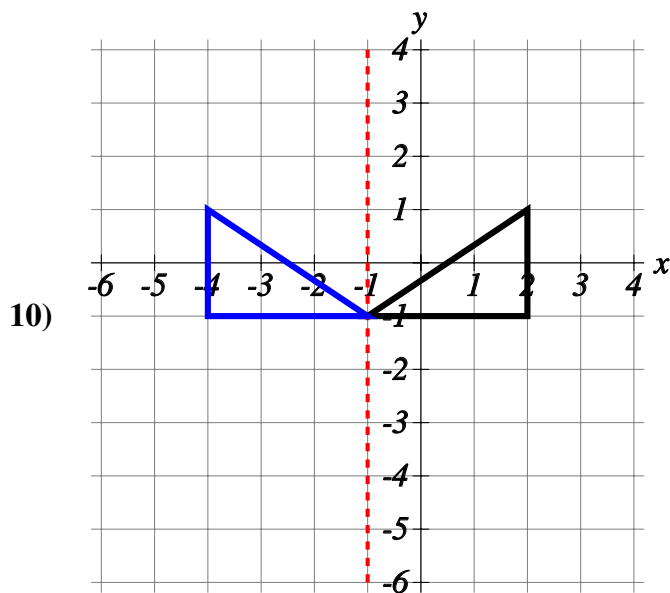
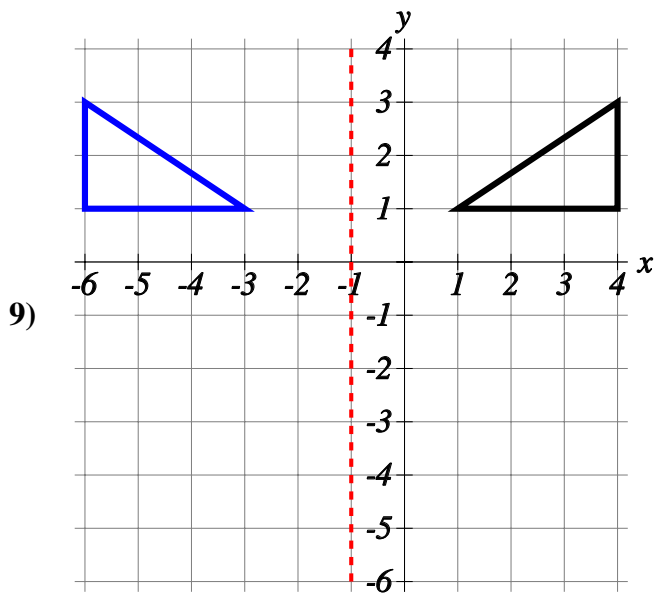
5) $x = 50.2^\circ$

6) Height = 3.19 m

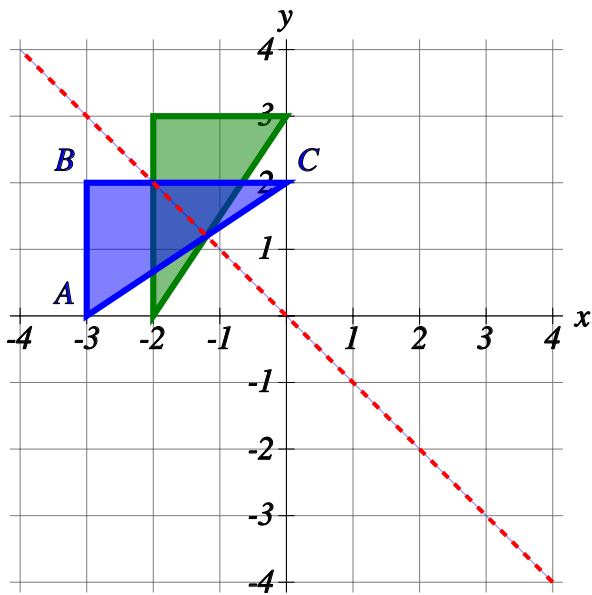
7) a) 120 km b) 1.5 hours

c) 45 km/h d) 49 km/h

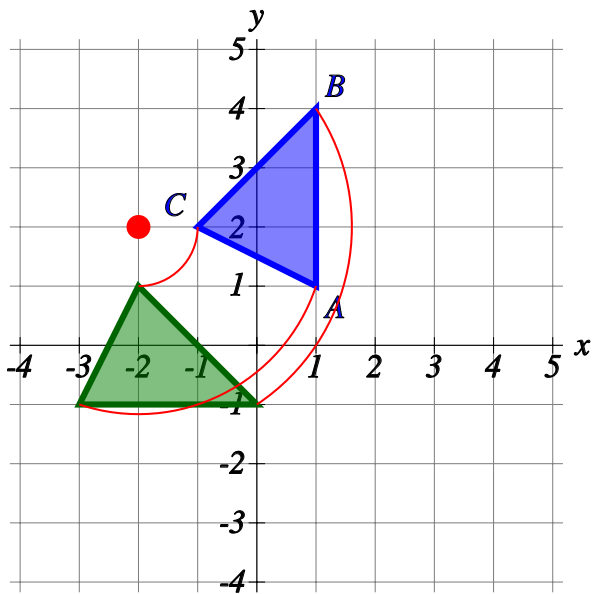
8) 3.9 m/s^2 (3.8 - 4)



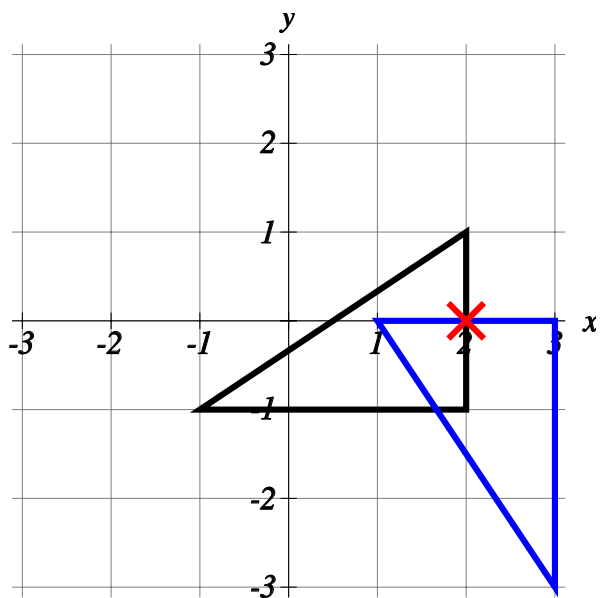
11) reflection in $y = -x$



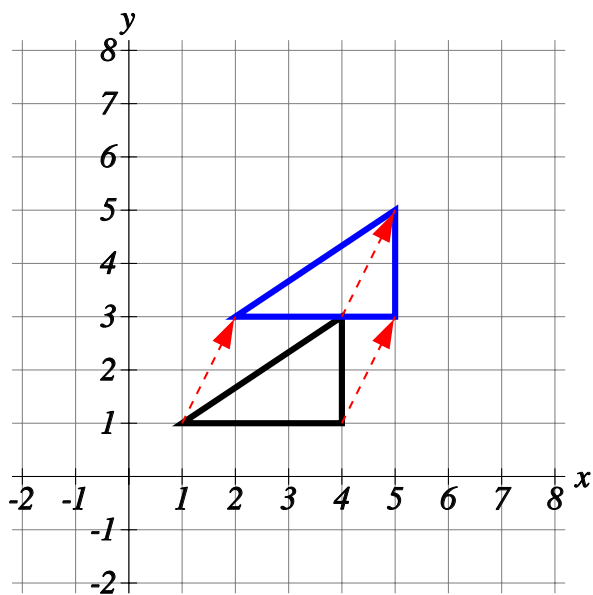
12) rotation 90° clockwise about $(-2, 2)$



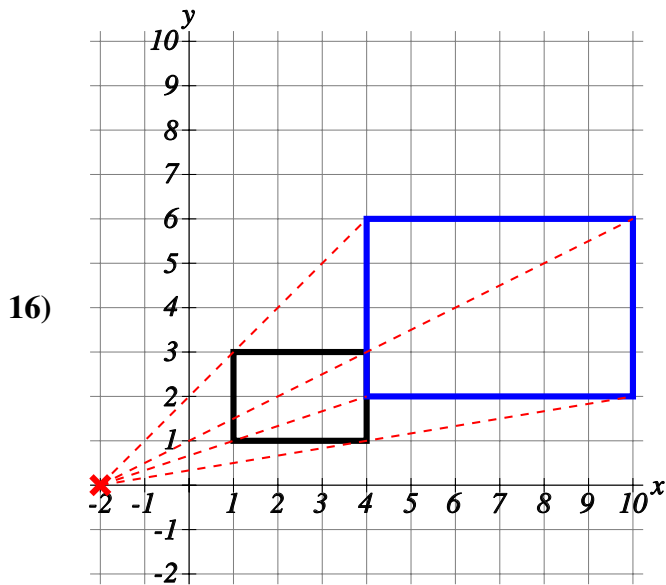
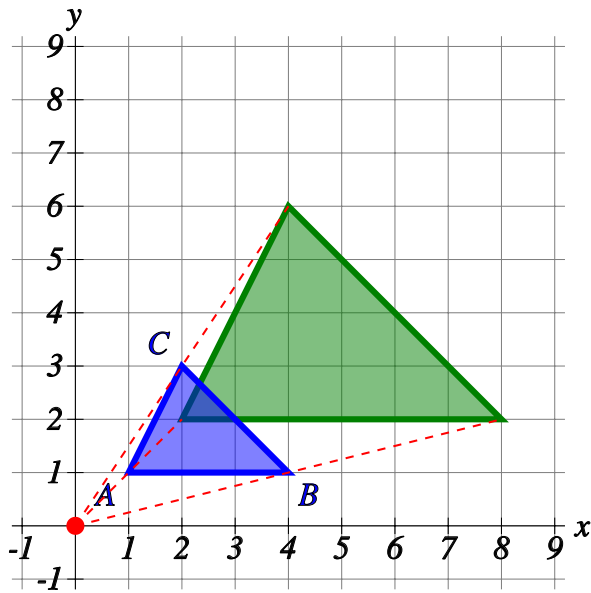
13)



14)



15) enlargement scale factor 2 centre (0,0)



17) a) $b = 2a$ b) 16 c) 9

18) a) $c = 4b^2$ b) 256 c) 9

19) a) $x = \frac{12}{w}$ b) 3 c) 2

20) a) $n = \frac{28}{\sqrt{m}}$ b) $5\frac{3}{5}$ c) 100