

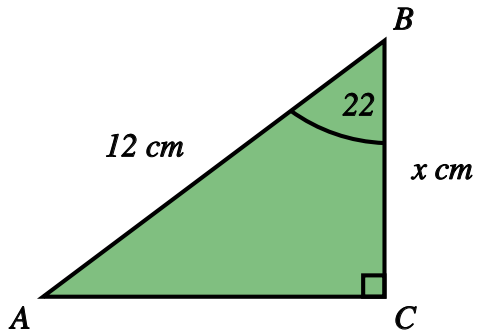
Trig, Stats, Travel, Transf and Proport

Name: _____ Class: _____ Date: _____

Mark / 20 %

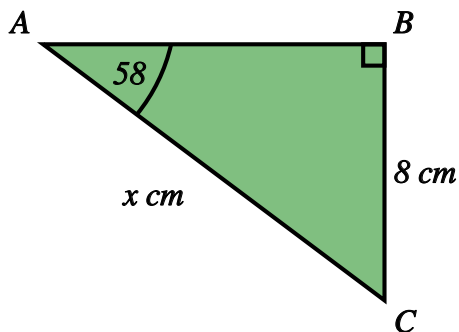
1) Find x in the triangle below, giving your answer to 3 significant figures.

[1]



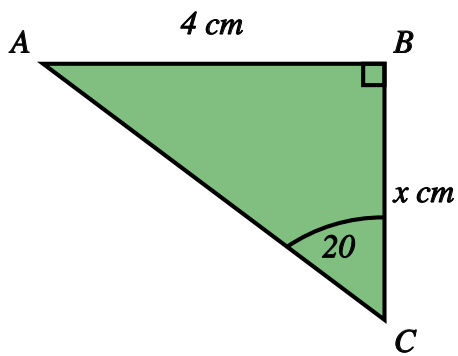
2) Find x in the triangle below, giving your answer to 3 significant figures

[1]



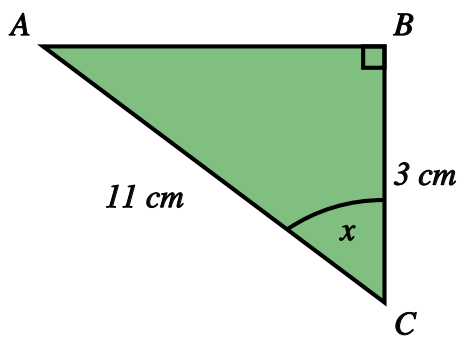
3) Find x in the triangle below, giving your answer to 3 significant figures

[1]



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

[1]

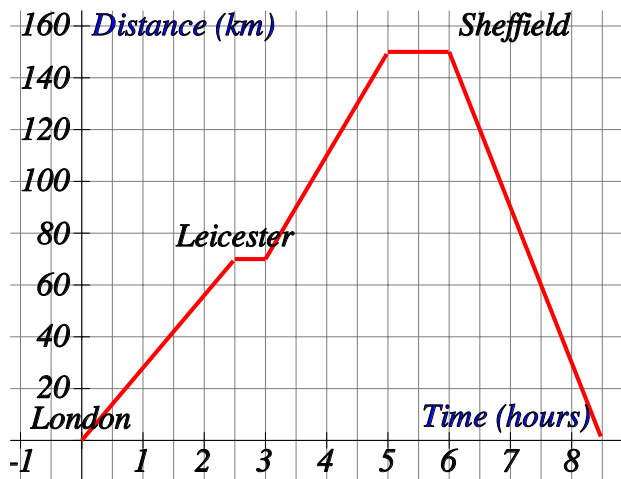


5) A safe angle for a ladder is about 75° from the ground.

[1]

If you have a 4.8 metre ladder, how far from a wall should you place the base of the ladder?
Give your answer to 3 significant figures.

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

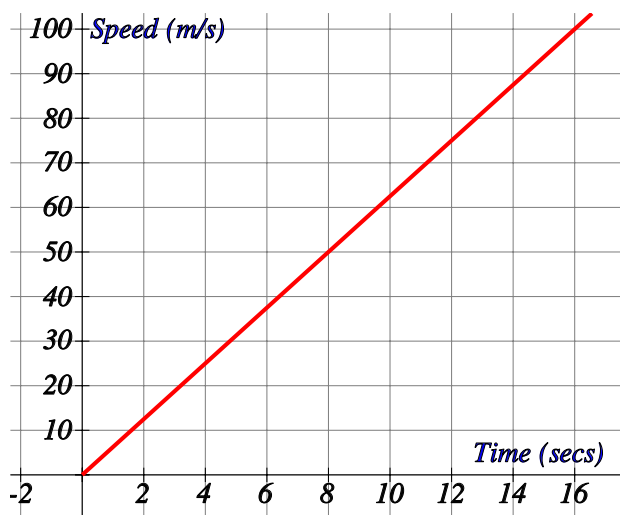


Find

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

[1]

7) The speed-time graph below shows the acceleration of a Ferrari 288 GTO. Find an estimate for the acceleration leaving your answer to 1 decimal place.



[1]

8) The data given below shows information about the number of chocolate bars consumed per month per person by a group of office workers.

Find the modal number of chocolate bars.

22 20 10 16 16 30

[1]

9) Find the mean, median and mode of the data given below. Round your answers to 3 significant figures where necessary.

23 26 23 17 16 10 24

[1]

10) Find the mean, median and mode for the following data

Data	Frequency
0	1
1	1
2	6
3	10
4	5
5	12
6	1
7	1

[1]

11) A set of data is given below in a grouped frequency table.

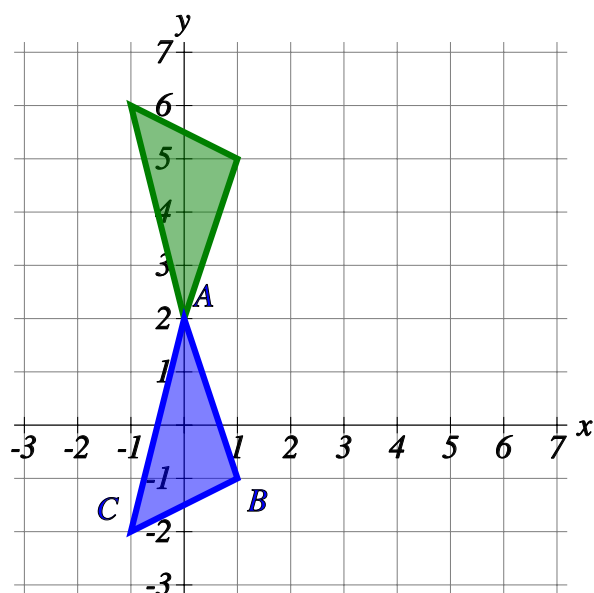
Data	Frequency
$30 \leq x < 33$	2
$33 \leq x < 36$	3
$36 \leq x < 39$	5
$39 \leq x < 42$	7
$42 \leq x < 45$	6
$45 \leq x < 48$	2
$48 \leq x < 51$	2

Find an estimate of the mean, giving your answer to 1 decimal place

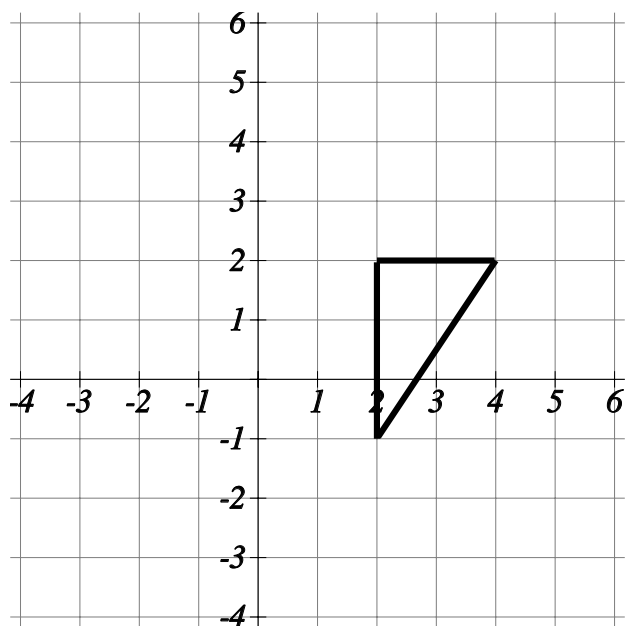
[1]

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

[1]



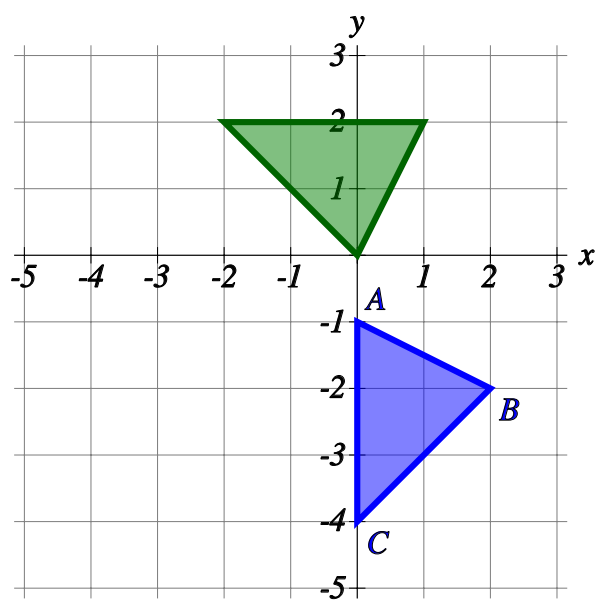
13) Reflect the shape in the line $x = 1$.



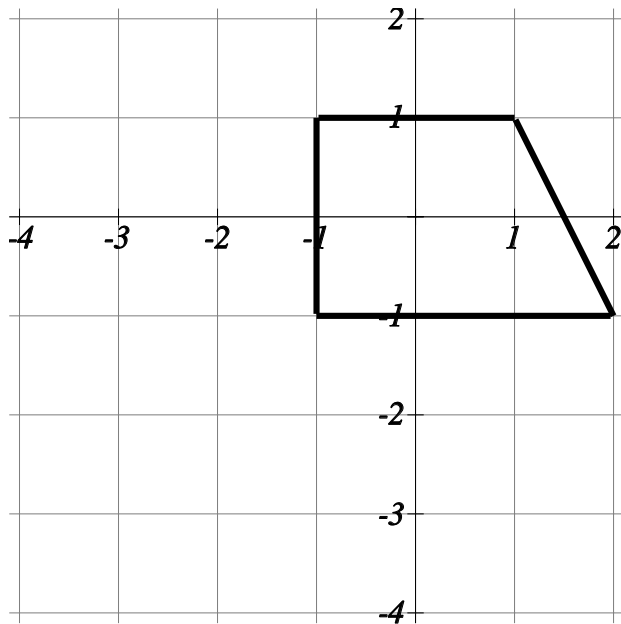
14) Fully describe the single transformation from the triangle ABC to its image

[1]

[1]

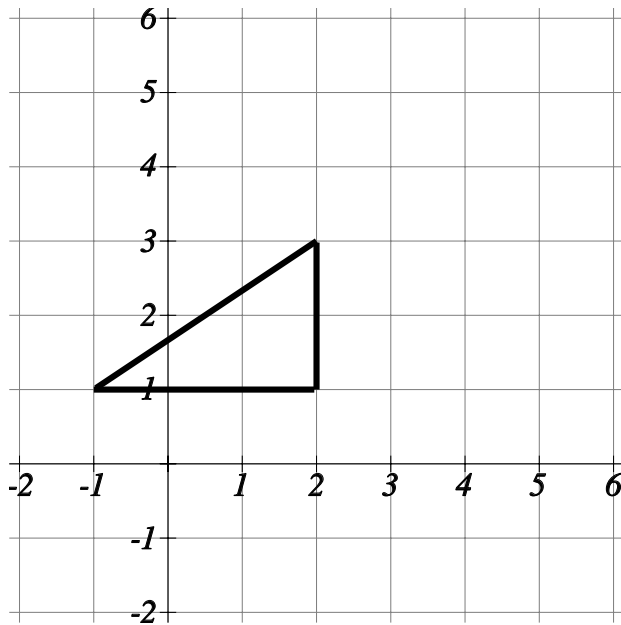


15) Rotate the shape 90° anti-clockwise about centre $(2,-1)$.



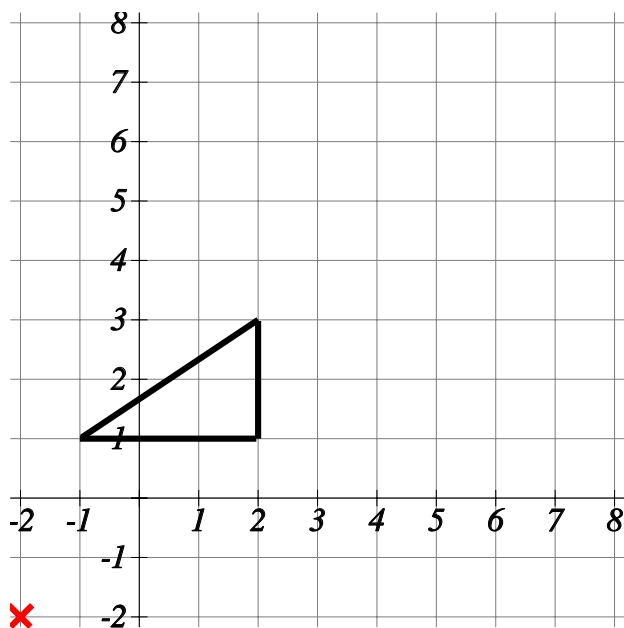
[1]

16) Translate the shape by the vector $\begin{pmatrix} 3 \\ 2 \end{pmatrix}$.



[1]

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



18) If n is proportional to m and $n = 35$ when $m = 7$. Find [1]

a) the formula for n in terms of m

b) the value of n given $m = 13$

c) the value of m given $n = 60$

19) If b varies as \sqrt{a} and $b = 60$ when $a = 144$. Find the formula for b in terms of a [1]

20) If c is inversely proportional to b and $c = 26$ when $b = 2$. Find [1]

a) the formula for c in terms of b

b) the value of c given $b = 1$

c) the value of b given $c = 13$

Solutions for the assessment Trig, Stats, Travel, Transf and Proport

1) $x = 11.1$ cm

2) $x = 9.43$ cm

3) $x = 11.0$ cm

4) $x = 74.2^\circ$

5) Distance = 1.24 m

6) a) 70 km b) 0.5 hours
c) 40 km/h d) 35 km/h

7) 6.3 m/s^2 (6.2 - 6.4)

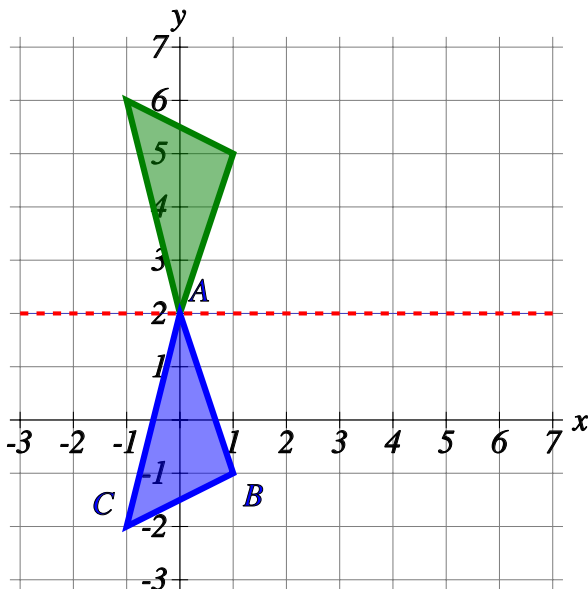
8) modal = 16

9) mean = 19.9, median = 23, mode = 23

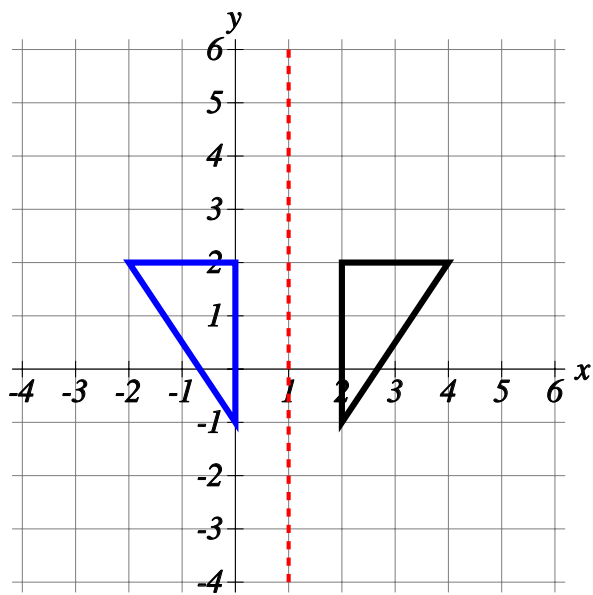
10) mean = 3.7, median = 4, mode = 5

11) estimated mean = 40.4

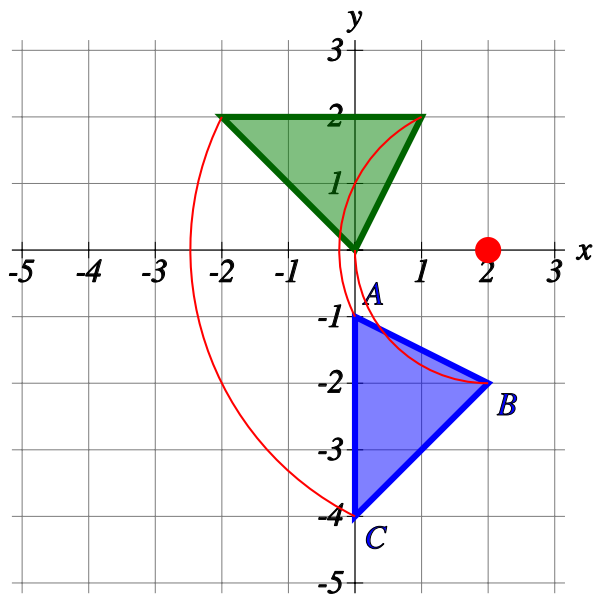
12) reflection in $y = 2$



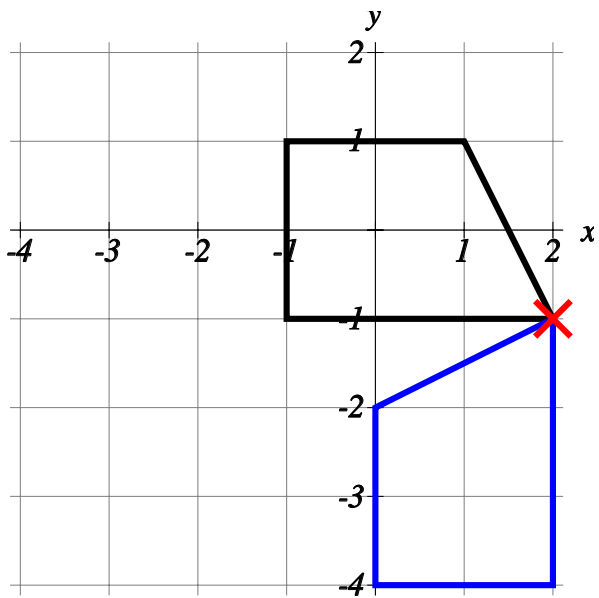
13)



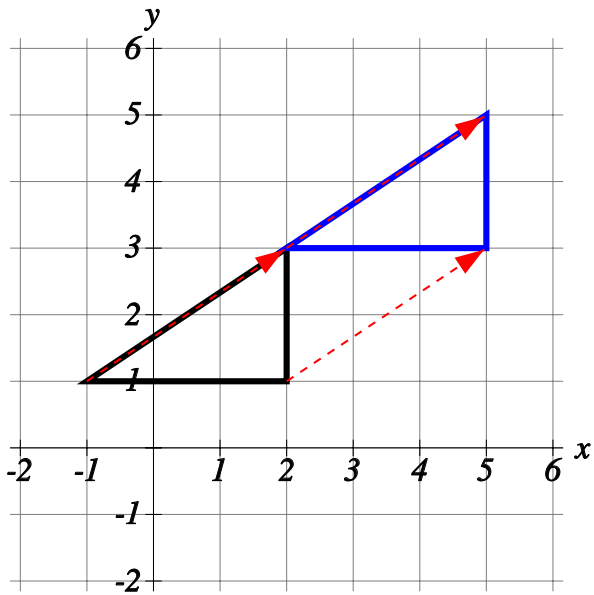
14) rotation 90° clockwise about $(2,0)$



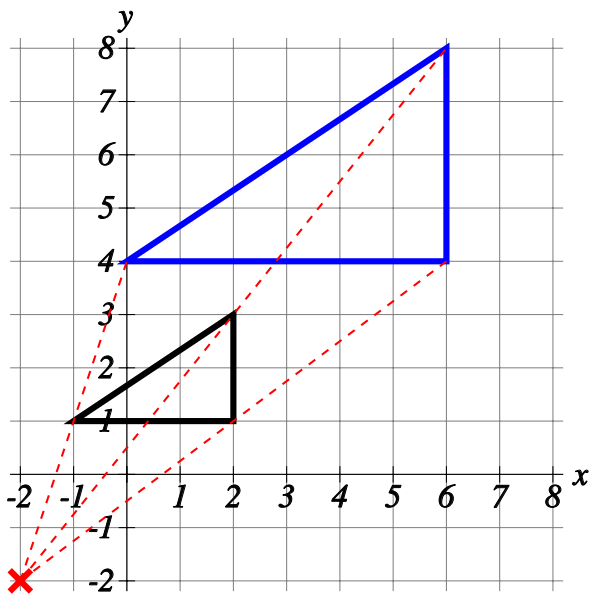
15)



16)



17)



18) a) $n = 5m$ b) 65 c) 12

19) $b = 5\sqrt{a}$

20) a) $c = \frac{52}{b}$ b) 52 c) 4