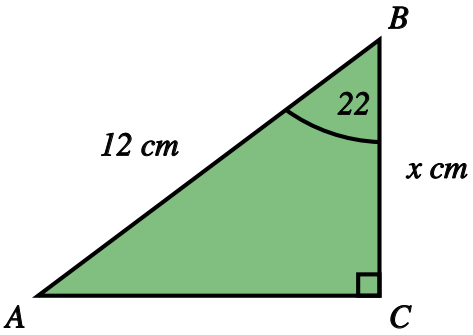
Trig, Stats, Travel, Transf and Proport

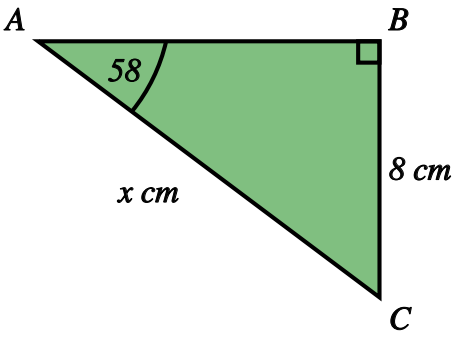
Name:	Class:	Date:

Mark	/ 20	%

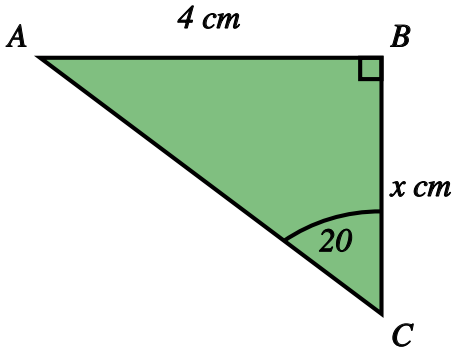
1) Find x in the triangle below, giving your answer to 3 significant figures. [1]



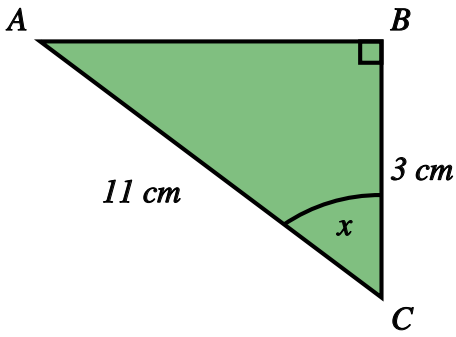
2) Find x in the triangle below, giving your answer to 3 significant figures [1]



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

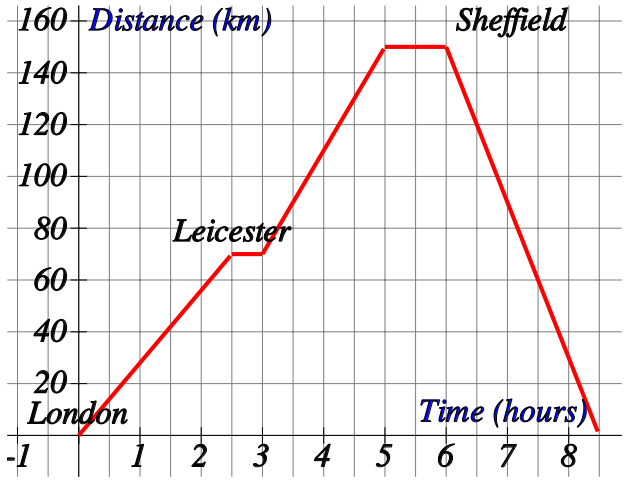


4) Find angle x in the triangle below, giving your answer to 1 decimal place. [1]



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

a) the distance to Leicester.

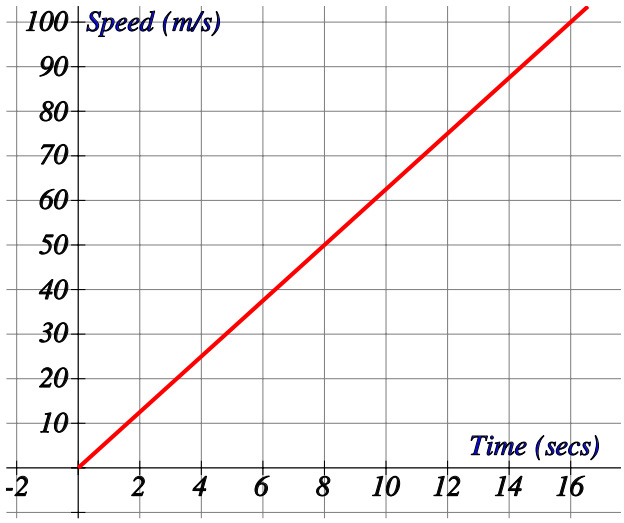
b) the time he spent in Leicester.

c) at what speed he travelled from Leicester to Sheffield.

d) 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]

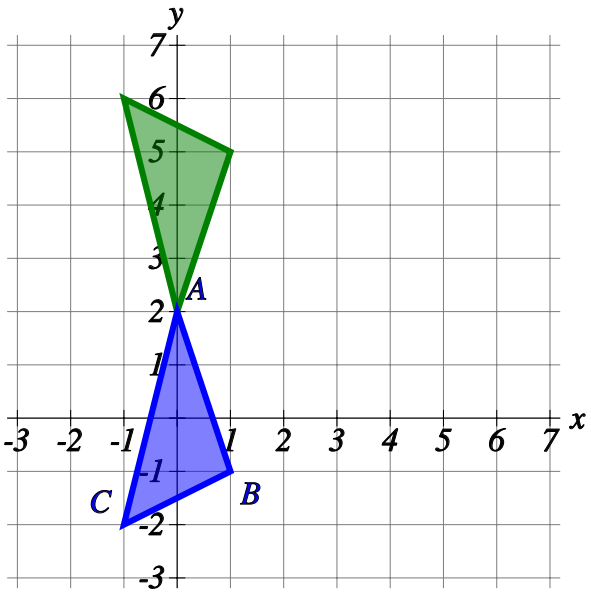
11) A set of data is given below in a grouped frequency table.

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

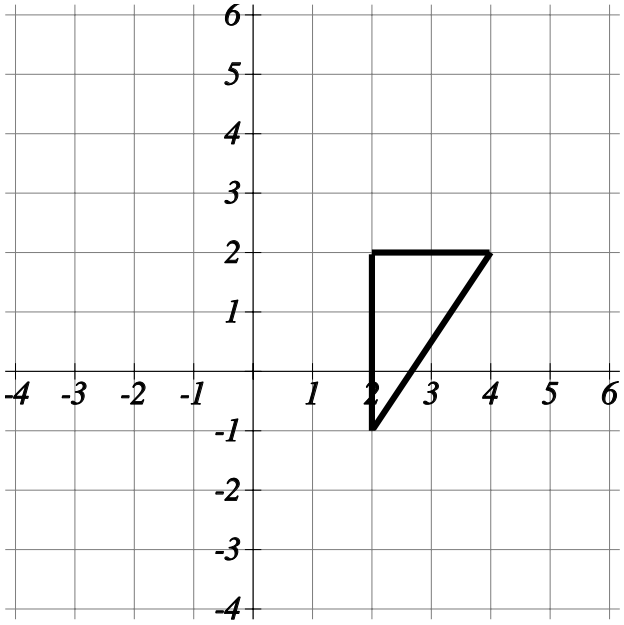
Find an estimate of the mean, giving your answer to 1 decimal place

[1]

12) Fully describe the single transformation from the triangle ABC to its image [1]

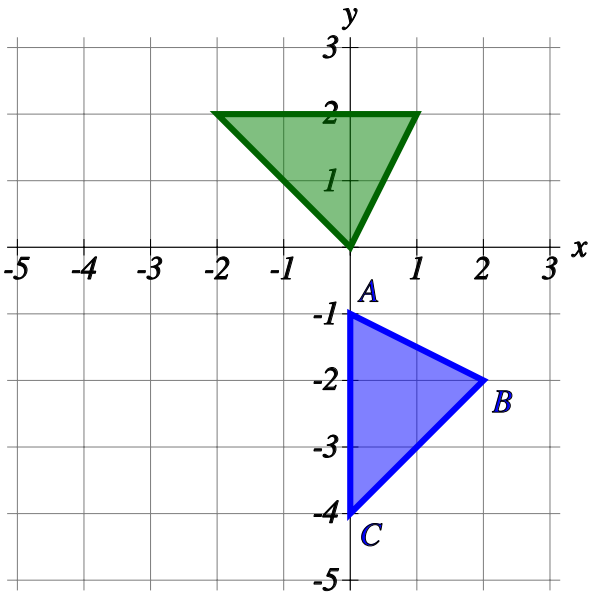


13) Reflect the shape in the line $x = 1$.

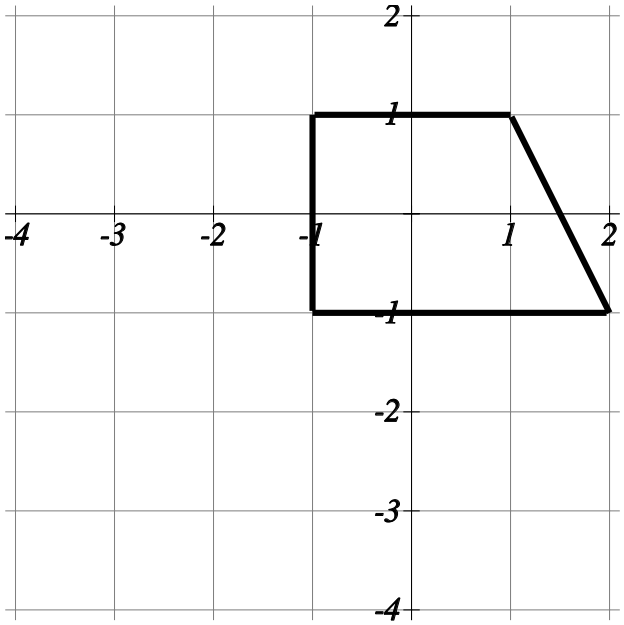


[1]

14) Fully describe the single transformation from the triangle ABC to its image [1]

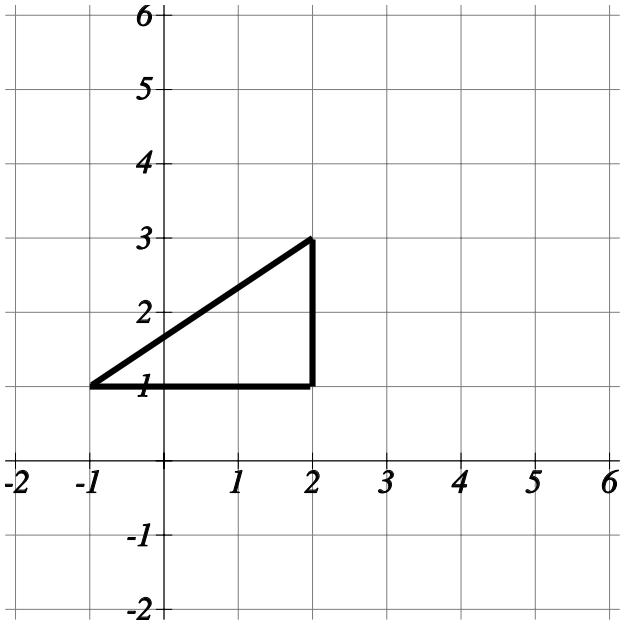


15) Rotate the shape 90° anti-clockwise about centre (2,-1).



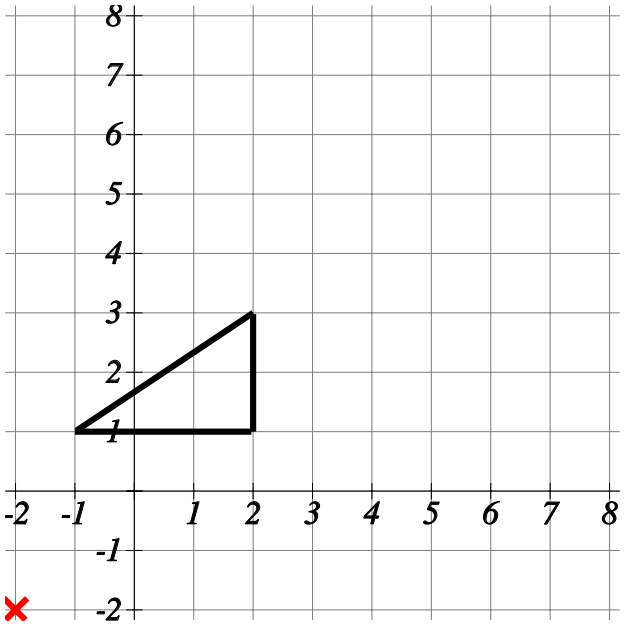
[1]

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.



[1]

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°

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)

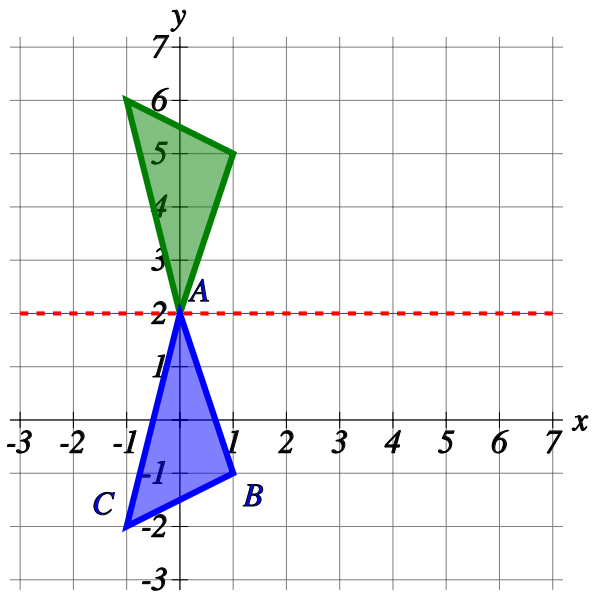
8) modal = 16

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

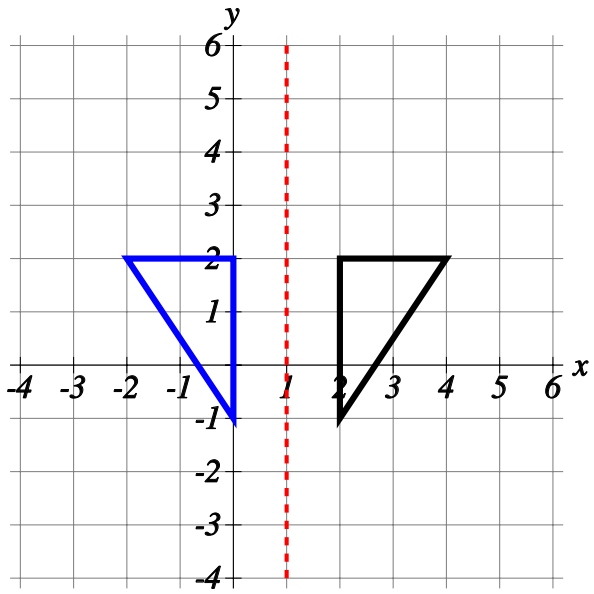
10) mean = 3.7, median = 4, mode = 5

11) estimated mean = 40.4

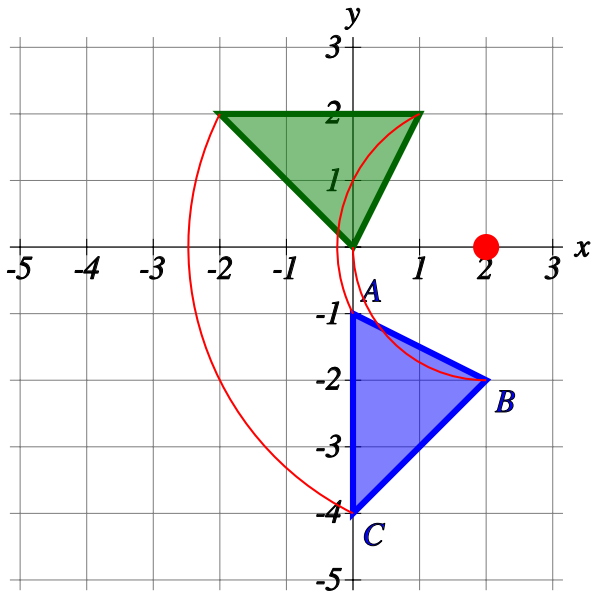
12) reflection in y = 2



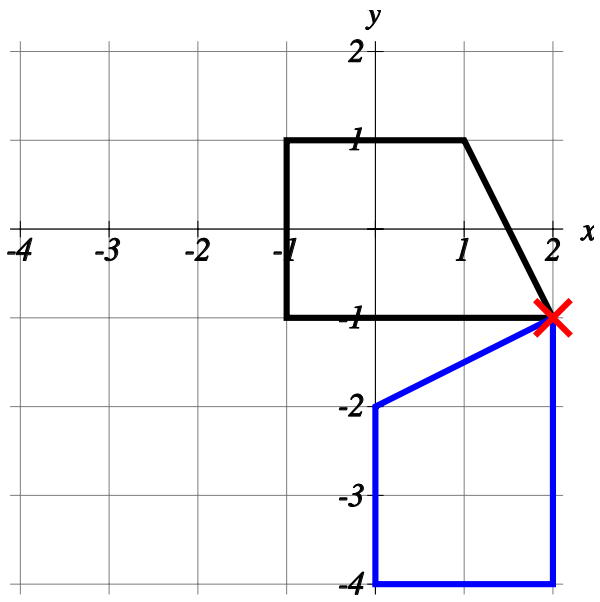
13)



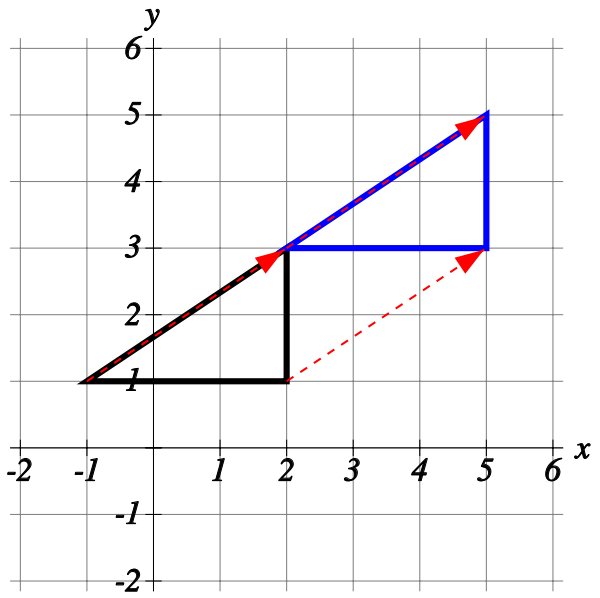
14) rotation 90° clockwise about (2,0)



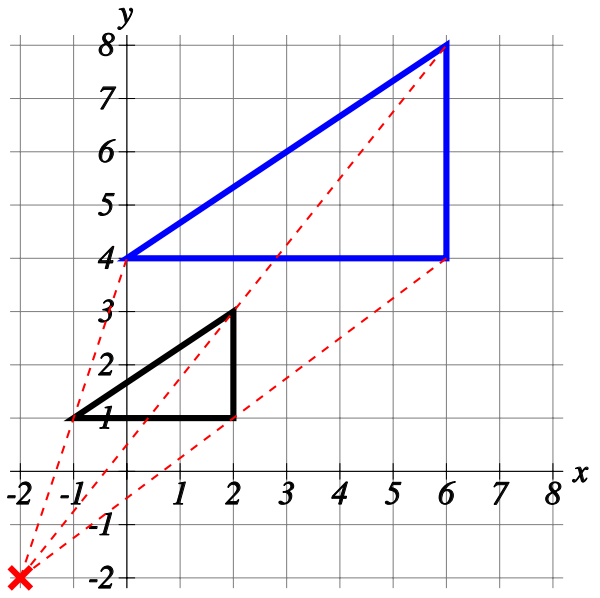
15)



16)



17)



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

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

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