

Name:

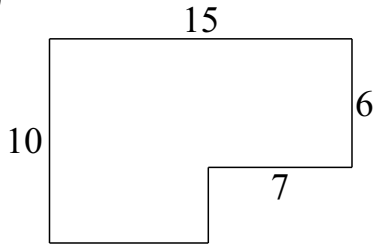
Class/Set:

FY Hall B 21

Malvern College

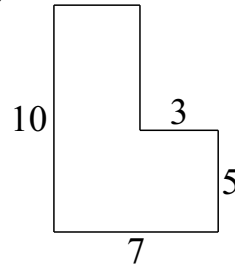
1: Work out the following (all units are in cm):

a)



Find the area.

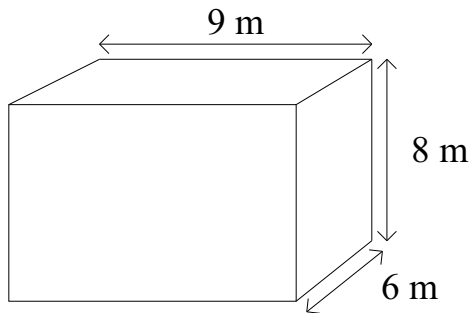
b)



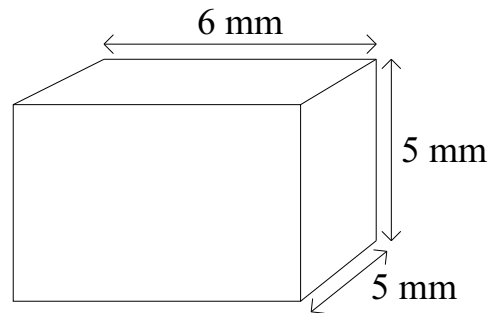
Find the area.

2: Work out the following:

a) Find the volume of this cuboid.

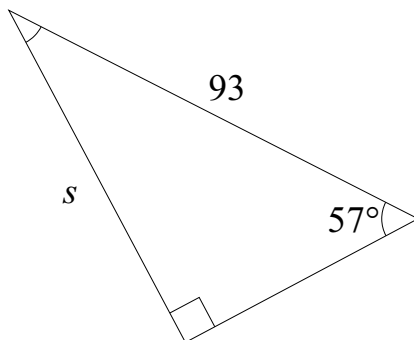


b) Find the volume of this cuboid.

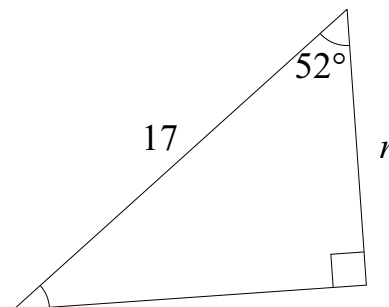


3: Find the unknown quantity (correct to 1 decimal place):

a)

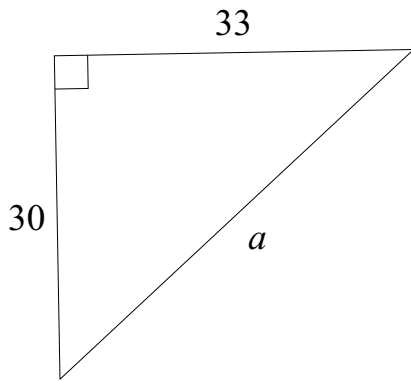


b)

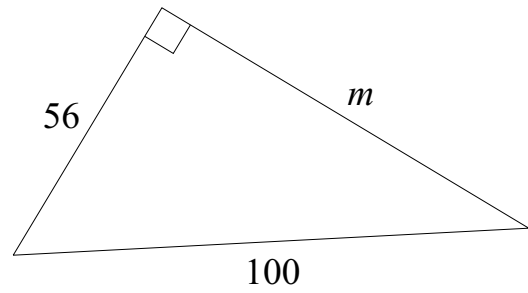


4: Find the unknown quantity (correct to 1 decimal place):

a)

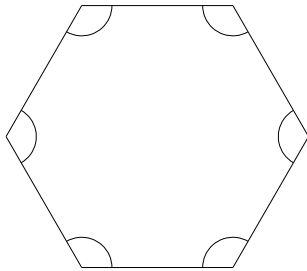


b)

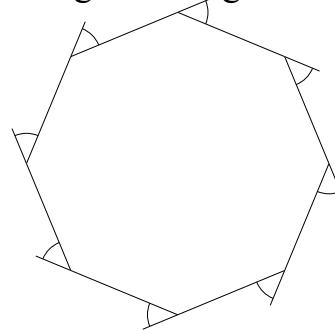


5: Find the required angle:

a) Find the **sum of interior** angles in a regular hexagon.



b) Find the **sum of exterior** angles in a regular octagon.



6: Work out the following:

a) What is 4.8% of £6,690.00?

b) What is 38% of 37300 min?

7: Work out the following:

a) Increase 986 cm^2 by 54%

b) Decrease 74100 cm^3 by 3.3%

8: Calculate the following to the nearest £0.01.

a) The value after 4 years of £8,400.00 reduced by 18% p/a.

b) The interest after 2 years on £3,040.00 invested at 19% p/a compound interest.

9: Work out the following:

a) Share 55 in the ratio 9:1:1

b) Share 22 in the ratio 9:2

10: Simplify the following:

a) $\frac{4e^4 \times 8e^9}{4e^8} =$ _____

b) $2u^4 \times 5u^7 \times 10u^9 =$ _____

11: Multiply out and simplify the following:

a) $-2(6g + 7) + 5(g - 10)$

b) $-7(9j + 7) + 9(10j - 9)$

12: Factorise the following:

a) $8b^4k^7 + 24b^6k^5 =$ _____

b) $3v^5x^5z^4 - 18v^7x^5z^5 =$ _____

13: Multiply out and simplify the following:

a) $(5h + 1)(7h - 8)$

b) $(5f - 8)(9f + 5)$

14: Solve the following:

a) $18 = 5t - 7$

b) $9(p - 2) = 63$

15: Solve the following:

a) $3x - 1 < 14$

b) $6(x - 8) \geq -96$

16: Find a formula for the n th term:

a) $-0.3, -0.1, 0.1, 0.3, 0.5, \dots$

b) $-1.8, -2.7, -3.6, -4.5, -5.4, \dots$

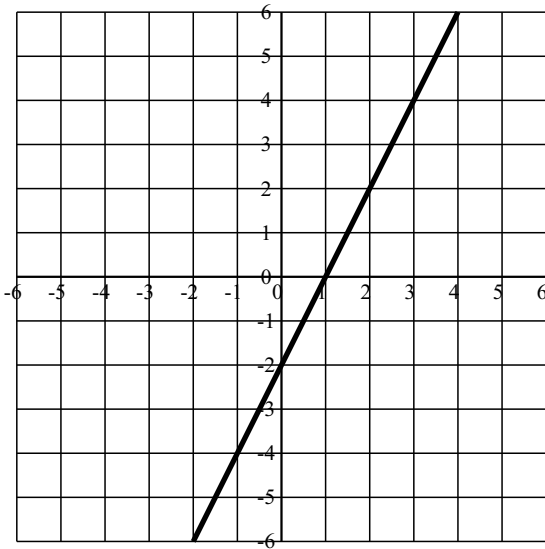
17: Using the information given, find the equation of each line in the form $y = mx + c$:

a) Passing through $(-6, 1)$ and $(-10, 9)$

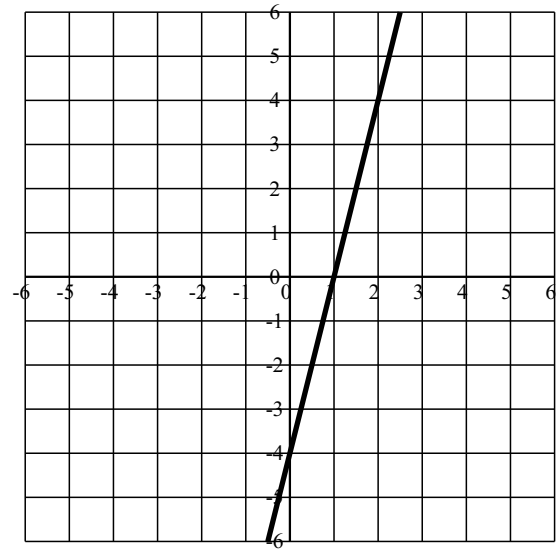
b) Passing through $(-1, 1)$ and $(2, 4)$

18: Give an equation for the graph:

a)



b)



19: Express as a product of prime factors:

a) 70

b) 84

20: Find the LCM of:

a) 16 and 24

b) 27 and 45

21: Work out the following, showing your method and simplifying your answer:

a) $2\frac{1}{3} \times 1\frac{2}{3}$

b) $2\frac{1}{4} \div 1\frac{1}{9}$

22: Write as a normal number:

a) $2 \times 10^{-5} =$ _____

b) $8.7954 \times 10^2 =$ _____

23: Calculate the following, giving your answer in standard form:

a) $1.4 \times 10^9 \div 7 \times 10^{-1}$

b) $9 \times 10^{-5} \times 6 \times 10^4$

24: Solve by factorising:

a) $c^2 - 7c + 10 = 0$

b) $q^2 + 5q - 6 = 0$
