

## Year 08 Weekly Tutorial - 24

mathsalphacom

1. Simplify.

a)  $(3a^{-2})^3 \times 4a^5$

b)  $\frac{(2^4)^3 \times 2^{-5}}{2^4}$

2. Solve.

a)  $\frac{3}{2}(2x - 1) = 2x - 5$

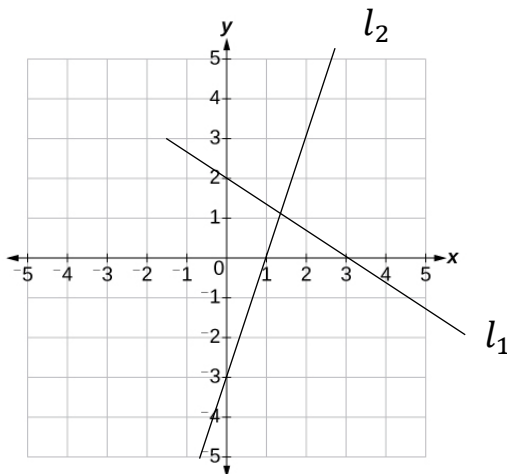
b)  $\frac{5x-11}{3} = \frac{3x+7}{2}$

3. Expand and simplify.  $(3x - 2)^2(4 - x)$

4. Solve by factorization.  $x^2 = \frac{15-7x}{2}$

5. Find the gradient and y-intercept of the line,  $5x - 2y - 3 = 0$

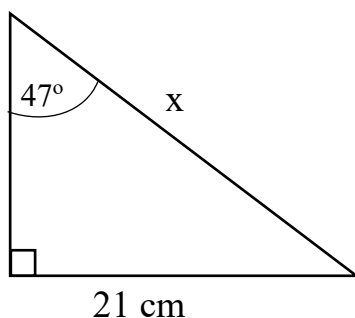
6.



Write the gradient and y-intercept of lines  $l_1$  and  $l_2$ .

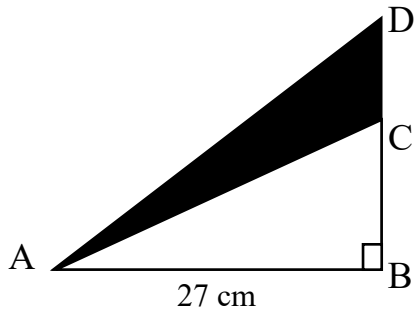
7. A town has 60 000 people. First year population of the town increases by 3%. Second year population decreases by 2%. Decide whether the population has increased or decreased compared to the original population.

8.



Find the length  $x$ . Give the answer correct to 1 dp.

9.



$$\angle ADB = 53^\circ$$

$$AB = 27 \text{ cm}$$

$$AC = 30 \text{ cm}$$

Find the shaded area.

Give the answer correct to 1 dp.

10. The following numbers have been corrected to the accuracy shown. Find the lower bounds and upper bounds and error interval for each number.

a) 389 (corrected to nearest whole number)

b) 9.3 (corrected to 1 dp)

c) 5.16 (corrected to 2 dp)

11. Calculate the following. Give your answers in standard form.

a)  $(3.15 \times 10^8) \times (2.9 \times 10^{-6})$

b)  $(4.9 \times 10^5) \div (7 \times 10^{-3})$

c)  $7.8 \times 10^{12} - 5.73 \times 10^9$

12.

12.5	10.3	11.5
13.4	12.7	10.1
12.8	10.3	14.2
14.2	15.8	11.7
13.5	12.1	15.3

The data set shows mass of 15 strawberries.

a) Show these data to draw ordered stem and leaf diagram.

b) Find the mode and median of the data.

c) Find the average mass of a strawberry.

13. The grouped frequency table shows data on the height of some plants.

Height (h) in cm	Frequency
$30 < h \leq 40$	8
$40 < h \leq 50$	17
$50 < h \leq 60$	23
$60 < h \leq 70$	7
$70 < h \leq 80$	5

Find the average height of a plant correct to 1 dp.