

Percentage Change

- 1) Emma buys a house for \$201,500. She sells the house for \$ 213,590. Calculate the **percentage profit** Emma makes. (1 mark)
- 2) Last year Geri's council tax bill was **\$1,906**. This year she has to pay **\$1,815** for her council tax. Work out the **percentage decrease** in her council tax bill. *Give your answer to 1 decimal place.*
(1 mark)
- 3) A business has increased in value by 10% to \$489,500. What was the business worth **before the increase?** (1 mark)

Simple Interest

$$I = P \times r \times t ; A = P + I$$

- 4) Jaxon invests \$3,000 in a bank account that pays 2% simple interest per year. He invests the money for 3 years. Calculate the **amount of interest Jaxon earns**.
(1 mark)
- 5) A bank is offering 1.5% simple interest on a savings account. If you deposit \$7000, how much **interest will you earn in 17 months?** Correct to 2 decimal places
(1 mark)
- 6) Laura invests \$2,400 in an account that pays 1.2% simple interest per annum. She invests the money for 5 years. At the end of each year Laura gives the interest to her two sisters, Hannah and Freya in the **ratio 3:7**. How much money does Freya receive in total?
(2 marks)
- 7) Faith invests **\$800 for 3 years** in a bank account. The account pays simple interest at a rate of **0.4% per year**. Work out the **total amount of money** in Faith's bank account **after 3 years**.

(1 mark)

Probability

Elizabeth has a bunch of red, yellow and white roses. She chooses a rose at random. The probability that she chooses a **yellow rose is 0.1**. The probability that she chooses a **white rose is 0.2**.

- 8) What is the probability that Elizabeth chooses a rose that is either **yellow or white**? (1 mark)

- 9) What is the probability that Elizabeth chooses a **red rose**? Use a complement. (1 mark)

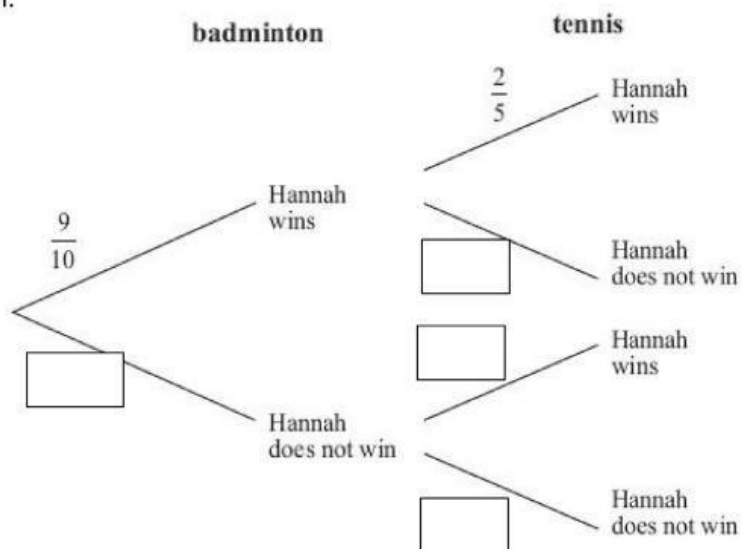
- 10) There were ten roses in the bunch originally. **How many roses were red?** (1 mark)

- 11)** Hannah is going to play one badminton match and one tennis match. The probability that she will win the badminton match is $\frac{9}{10}$. The probability that she will win the tennis match is $\frac{2}{5}$.

- a) Complete the probability tree diagram.

- b) Work out the probability that Hannah will win **BOTH** matches.

- c) Work out the probability that Hannah wins **ATLEAST** one match.

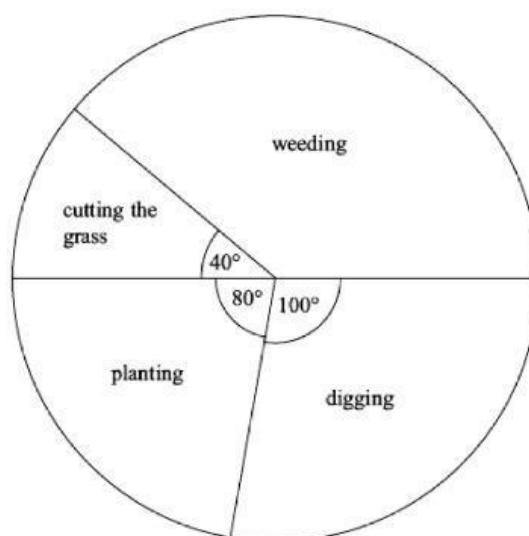


Averages**(3 marks)****12)** Complete the table.

Data	Mean	Median	Range
1, 2, 4, 5, 6, 6			
2, 1, 1, 7, 4, 9, 12, 26, 10			
21, 2, 7, 9, 1, 2			

(3 marks)**Charts & Diagrams****13)** This is information on how Marty spends his time in the garden.

Activity	Time (Mins)	Angle
Weeding	a	b
Cutting the grass	20	40°
Planting	c	80°
Digging	d	100°

What is the value of **a**?What is the value of **b**?What is the value of **c**?What is the value of **d**?

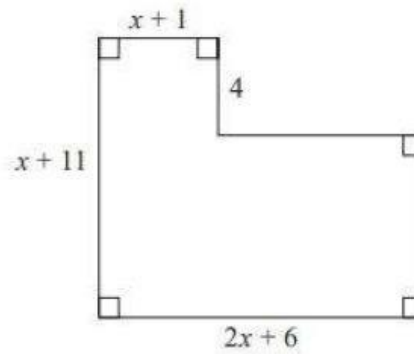
Expressions & Equations

(2 marks)

14) Fully factorise: $28x^3 + 84x^2$

(2 marks)

15) The area of the shape is $A \text{ cm}^2$
Show that $A = 2x^2 + 24x + 46$



(2 marks)

16) Solve the systems of linear equations:

By Substitution:

$$\begin{aligned} 3x + 4y &= 92 \\ y &= 7x - 132 \end{aligned}$$

By Elimination:

$$\begin{aligned} 3x + 9y &= 63 \\ 3x + 4y &= 43 \end{aligned}$$

(4 marks)

17) Expand and simplify: $3x(11 + 4) - 9x(2 - 6)$

(1 marks)

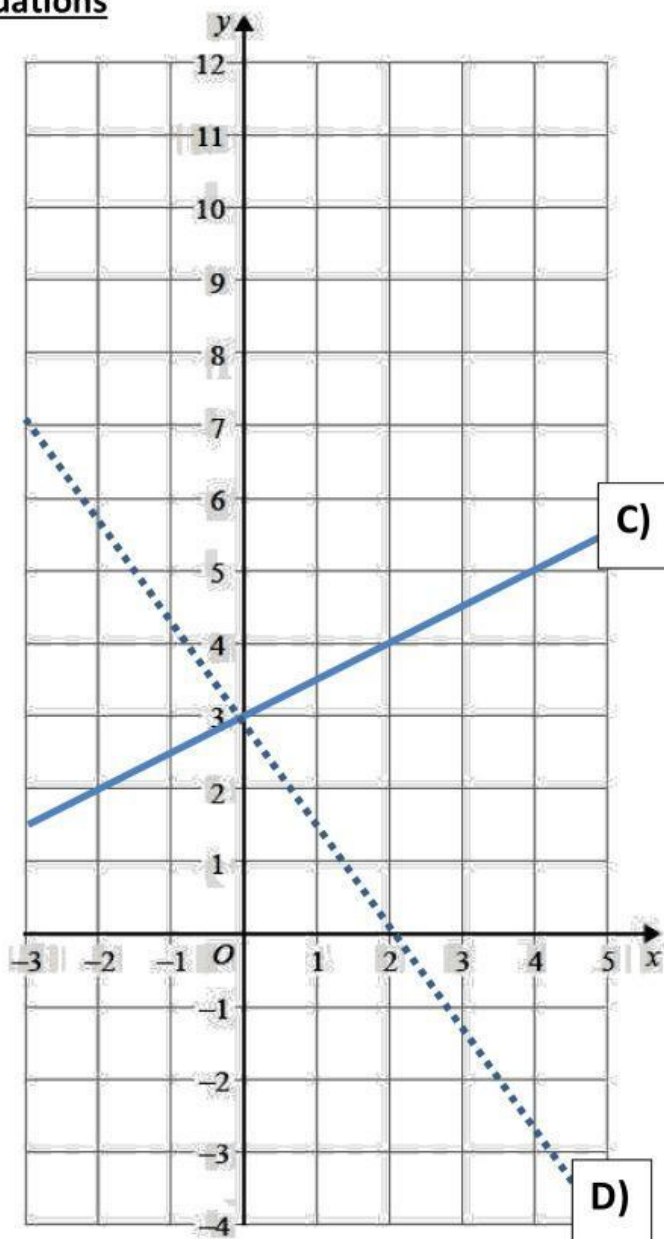
Linear Equations

18)

A) Draw the line: $y = 4x - 1$ B) Draw the line: $3y = 15 - x$

C) Determine the equation of line C:

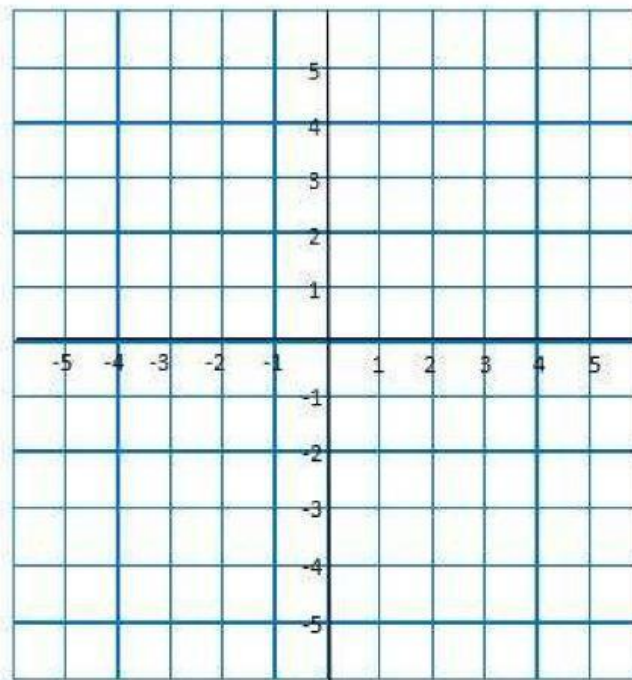
D) Determine the solution of lines C and D:



(4 marks)

Quadratic Equations**19)** Complete the table of values for $y = x^2 - 2$

x	-3	-2	-1	0	1	2
y						

Plot the line $y = x^2 - 2$ on the graph.

Write the co-ordinates of the vertex.

(4 marks)