

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

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

- 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)

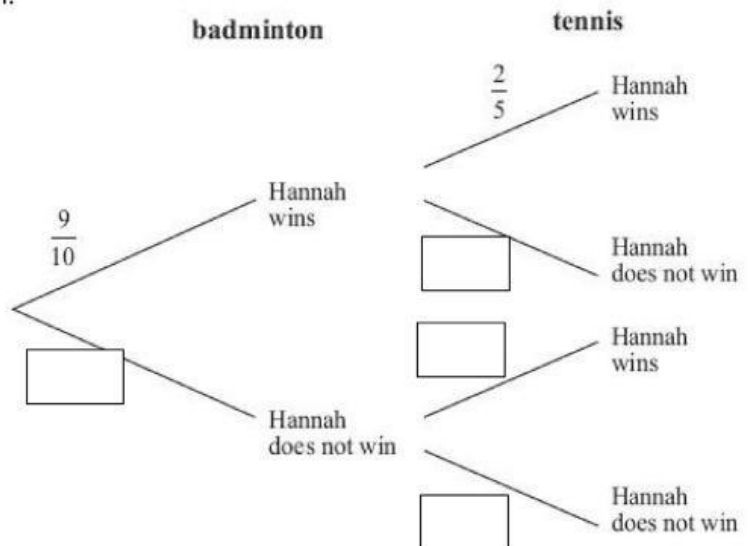
10) There were ten roses in the bunch originally. **How many roses were red**?
(1 mark)

11) Hannah is going to play one badminton match and one tennis match. The probability that she will **win the badminton match is 9/10**. The probability that she will **win the tennis match is 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**.

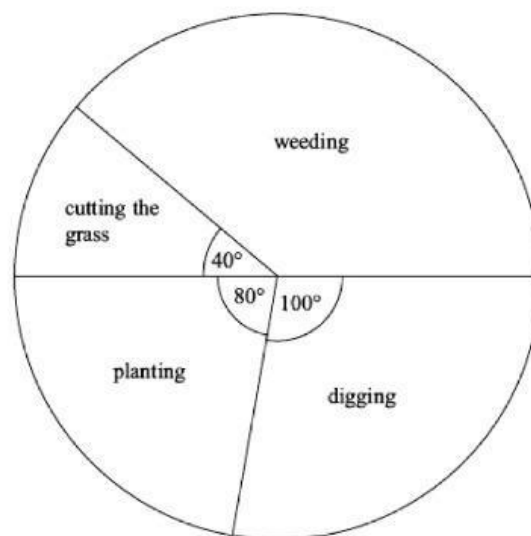


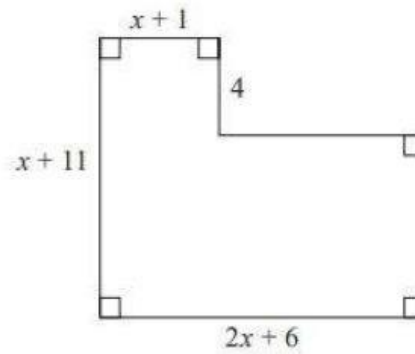
Averages**(3 marks)****12)** Complete the table.

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:

$$3x + 4y = 92$$

$$y = 7x - 132$$

By Elimination:

$$3x + 9y = 63$$

$$3x + 4y = 43$$

(4 marks)**17)** Expand and simplify: $3x(11 + 4) - 9x(2 - 6)$ **(1 marks)**

Linear Equations

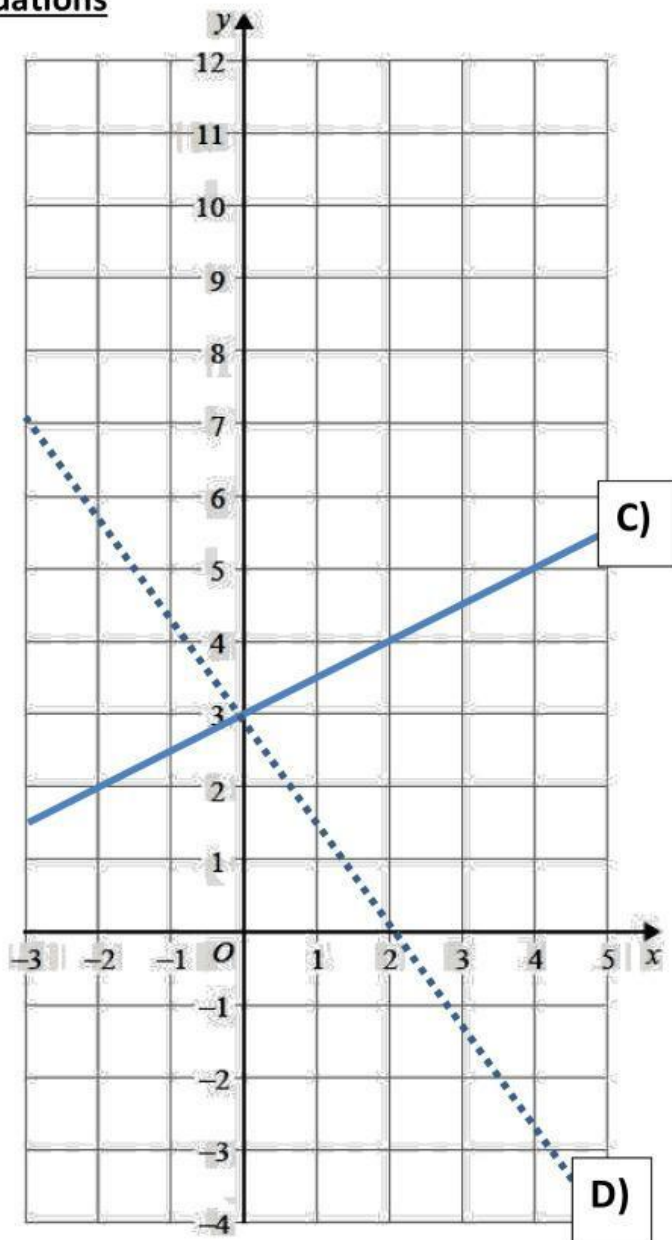
18)

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:



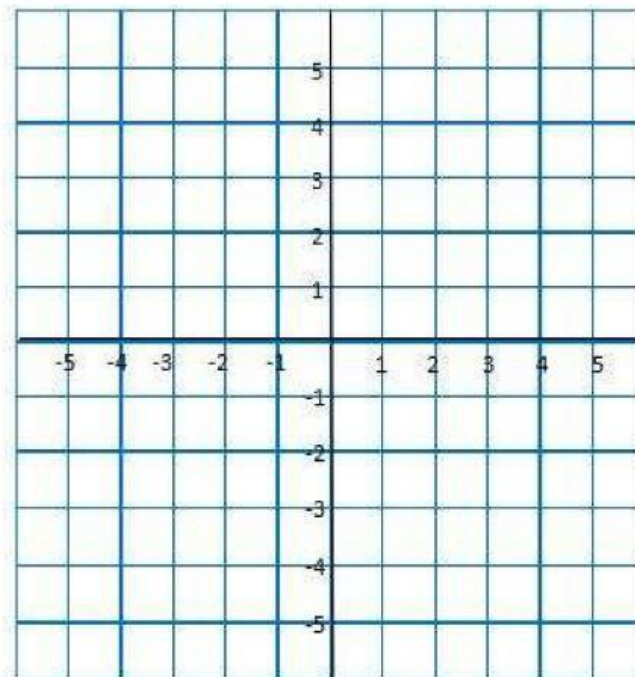
(4 marks)

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)