

**PRACTICE REGULAR ASSESSMENT**

## **KS3 Math Grade 8**

**Candidate Vietnamese name:** .....

**Candidate English name:** .....

**School:**..... **Class:**.....

**Date:**.....

### **Instructions**

- The test is **20 minutes** long + **10 minutes** with your review booklet.
- You will need a **black** ink or ball-point pen, pencil and rubber (eraser).
- Try to answer **all** the questions.
- Calculators **are allowed**
- Write any calculations or working on the question paper.
- Check your work carefully.
- Raise your hand if you have a question.
- Cheating will result in failure.

**Total Score:** /34

### 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?**

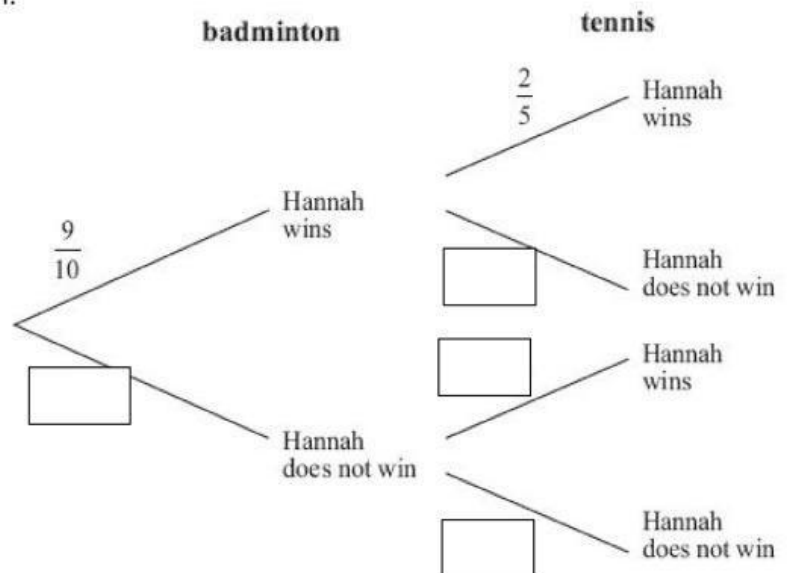
**(1 mark)**

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**.

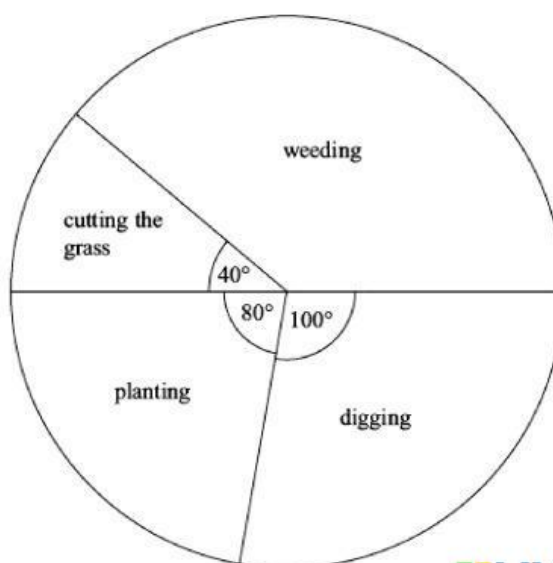


**Averages****(3 marks)****12)** Complete the table.

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	<b>a</b>	<b>b</b>
Cutting the grass	20	40°
Planting	<b>c</b>	80°
Digging	<b>d</b>	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**?

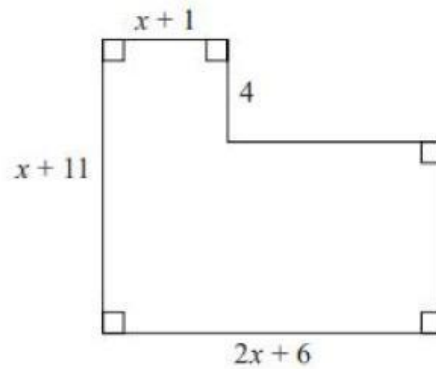
**Expressions & Equations**

**(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)

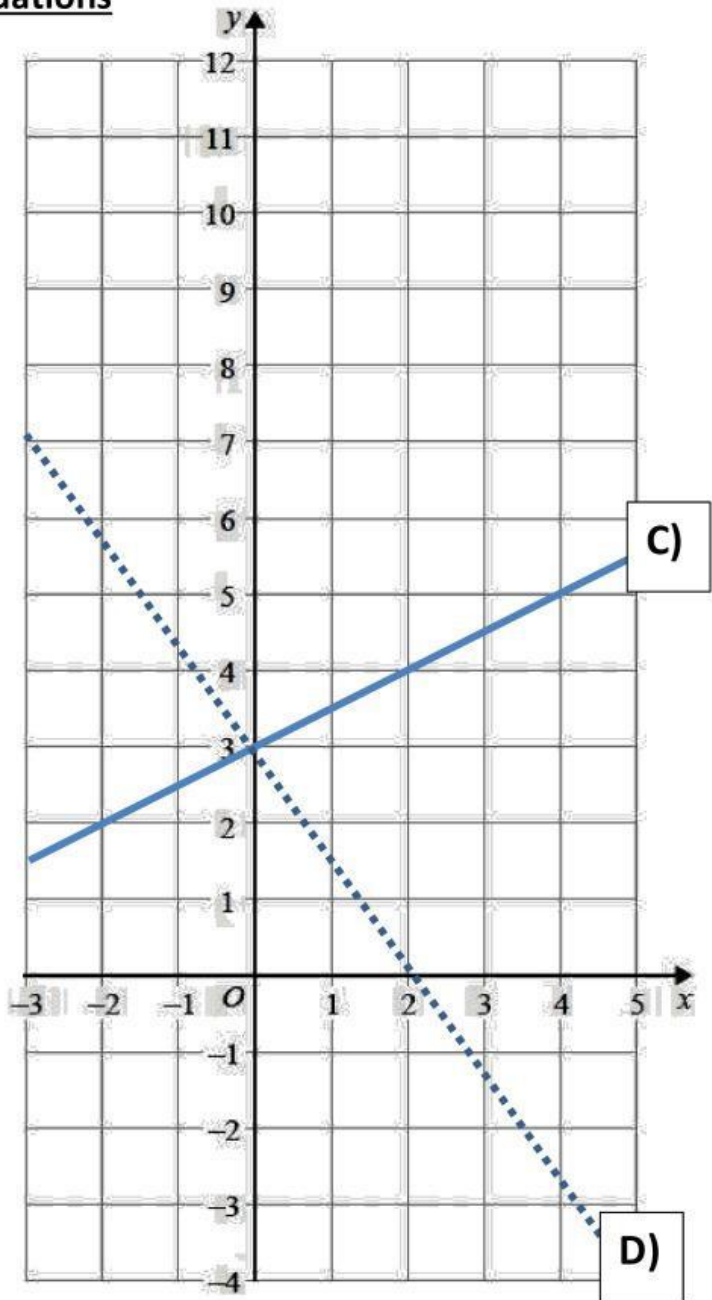
A) Draw the line:  $y = 4x - 1$ B) Draw the line:  $3y = 15 - x$ 

C) Determine the equation of line C:

---

D) Determine the solution of lines C and D:

---

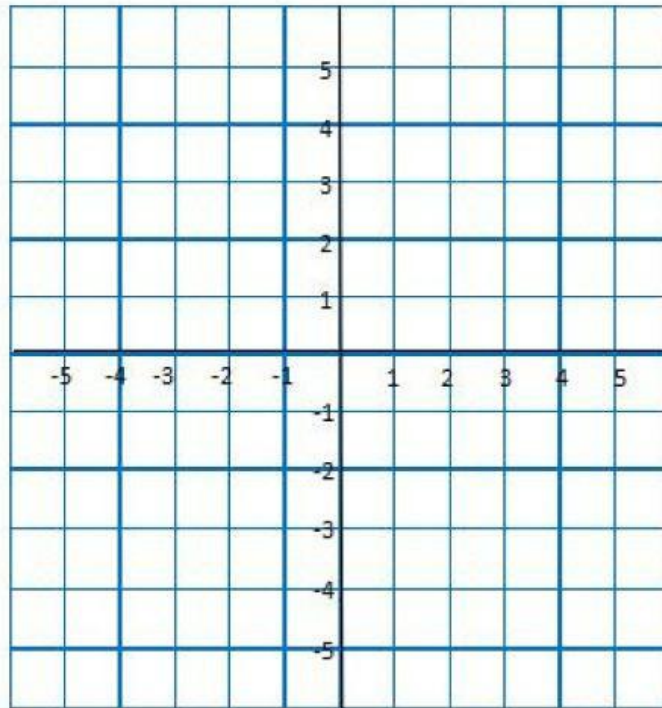


( 4 marks)



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

<b>x</b>	<b>-3</b>	<b>-2</b>	<b>-1</b>	<b>0</b>	<b>1</b>	<b>2</b>
<b>y</b>						

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

Write the co-ordinates of the vertex.

**( 4 marks)**