# Year 7 Mathematics

40 marks

40 mins Date

**Instructions:** 1. Answer all questions

uestions 2. Calculators permitted

Question 1 (10 marks - 1 mark each)

- **a)** Write  $5 \times 5 \times 5 \times 5 \times 5$  in index form:
- **b)** Write  $2^4$  in factor form:
- c) Calculate  $3 \times 10^2 + 2 \times 10^1 + 7$ .
- d) Find all the factors of each of the following numbers:i) 15ii) 18
- e) Find the highest common factor of 9 and 24.
- f) Use factor trees to find the prime factors of 25.
- **g**) Find the square of 4
- **h)** What is the square root of 9?
- i) What is the cube root of 27

## Question 2 (11 marks)

- a) Solve each of the following equations:
  - i) x + 3 = 10ii) x - 5 = 8iv)  $a \div 5 = 3$ v) 3b + 4 = 22
- **b)** For each of the following problems:
  - Write an equation.
  - Solve the equation.
  - Check the answer.



**iii)** 4x = 12

iii) The printer charges an upfront \$125 and then \$0.15 per flyer. How many flyers can be printed for \$1500?



(2 each)

(1 each)



#### Question 3 (9 marks - 1 each)

- a) Name the type of each of the following angles:
  - i) 137° ii) 240° iii) 90°
- **b)** Find the size of the unknown angle:



i)







ii)



- c) Which quadrilateral am I?
  - i) My opposite sides are equal.
  - ii) My opposite angles are equal.
  - iii) My diagonals are equal.
  - iv) My four angles are 90°.
  - v) My four sides are equal.
  - vi) My diagonals meet at right angles.
  - viii) At least one pair of my opposite sides are parallel.

#### Question 4 (10 marks)

- a) Use a stem and leaf plot to represent the traffic speed radar readings: 58, 54, 64, 58, 69, 58, 60, 57
  Also find the range, mean, mode, and median. (5)
- b) Use a Dot Plot to show the shape of the following data.

The test marks (out of 10):	9,	7,	8,	7,	6,	8,	7
	7	6	6	8	8	0	7

Also find the range, mode, median, and mean.

(5)

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# Year 7 Mathematics

40 marks

40 mins Date

**Instructions:** 1. Answer all questions

2. Calculators permitted

## Question 1 (10 marks - 1 mark each)

- a) Write  $2 \times 2 \times 2 \times 2 \times 2$  in index form:
- **b)** Write 3<sup>5</sup> in factor form:
- c) Calculate  $5 \times 10^2 + 4 \times 10^1 + 8$ .
- d) Find all the factors of each of the following numbers: 20 i) 10 ii)
- e) Find the highest common factor of 8 and 24.
- Use factor trees to find the prime factors of 20. **f**)
- g) Find the square of 3
- **h**) What is the square root of 16?
- What is the cube root of 64 i)

### **Question 2 (11 marks)**

- a) Solve each of the following equations:
  - i) x + 6 = 13**ii)** x - 3 = 7iv)  $b \div 4 = 6$ **v**) 4m + 2 = 22
- **b)** For each of the following problems:
  - Write an equation.
  - Solve the equation.
  - Check the answer.

i)



	13 m
x	Area = $195 \text{ m}^2$

**iii)** 5x = 10

iii) The electrician charges \$85 callout and then \$80 per hour. How many hours of work will the plumber put in for \$650?

ii)



(1 each)





### Question 3 (9 marks - 1 each)

- a) Name the type of each of the following angles:
  - i) 38° ii) 325° iii) 90°
- **b)** Find the size of the unknown angle:



i)



ii)

iv)

iii) a 119°



- c) Which quadrilateral am I?
  - i) My opposite sides are equal.
  - ii) My opposite angles are equal.
  - iii) My diagonals are equal.
  - iv) My four angles are  $90^{\circ}$ .
  - **v)** My four sides are equal.
  - vi) My diagonals meet at right angles.
  - viii) At least one pair of my opposite sides are parallel.

### Question 4 (10 marks)

a)	Use a stem and leaf plot to represer 12, 12, 32, 12, 36, 23, 12, 12, 12. Also find the range, mean, mode, an	nt the ages of people at the birthday party:	(5)
b)	Use a Dot Plot to show the shape of The test marks (out of 10):	f the following data. 6, 7, 8, 9, 6, 8, 7, 8, 7, 6, 8, 9, 7, 7, 7, 6, 7, 7, 8, 7	

Also find the range, mode, median, and mean.

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(5)