

GRADE 10 MATHEMATICS MARCH TEST

QUESTION 1

- 1.1 Copy and complete the following table on your answer sheet. Only tick in the applicable columns.

	N	N ₁	Z	Q	Q'	X	X'
$\sqrt{9} + 1$							
$\frac{5}{2}$							
0,75/3							
$\sqrt{5}$							

- 1.2 Determine between which integers the following irrational number lies:

$$\sqrt{17}$$

- 1.3 Use the ladder method to give the prime factors of 5104.

$$5104 = 2^4 \times 159$$

QUESTION 2

Factorise the following expressions:

2.1 $x^2 - 49$

2.2 $2x^2 + 5x - 3$

2.3 $6x^2 - 13x + 6$

2.4 $3x^2 + 9x - 12$

QUESTION 3

Simplify the following expressions:

3.1 $(x - 5)(3x + 2)$

3.2 $6x^2 - 12x + 6$

3.3 $\frac{3x^2 + 12x}{3x}$

QUESTION 4

Simplify the following using the exponential laws.

4.1 $\frac{1}{x^2}$

4.2 $\frac{x^3 \cdot x^2}{x^5}$

Solve for x:

4.3 $2^x - 5 = 11$

QUESTION 5

Solve for x:

5.1 $(x - 3)(x + 5) = 0$

5.2 $3x^2 + 10x + 7 = 0$

5.3 $\frac{1}{x} + \frac{1}{x+1} = \frac{1}{x+2}$

5.4 $\frac{x+2}{x} + 5 > 8$

5.5 Solve x and y simultaneously:

$$\begin{cases} x + y = 10 \\ x - y = 2 \end{cases}$$

5.6 Jane is 3 years older than her sister. Together they are 19 years old.

$$\begin{cases} J = S + 3 \\ J + S = 19 \end{cases}$$

QUESTION 6

6.1 Use the following triangle to determine the trigonometric ratios:



6.1.1

6.1.2

6.1.3

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American Mathematical Society

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