وزارة التربية و التعليم

Term-3

# Mathematics

2025-2026

# EOT Term-3-

AL-QUDRA SCHOOL

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## الصف الثاني عشر عام

# Grade 12 General

# نموذج اختبار-1-

## 2025-2026

جزء-1-

## Q1

Simplify the rational expression:

$$\frac{(6x^2 - 5xy)(x + 2y)}{(x + y)(5y - 6x)}$$

- ○ $\frac{x(x+2y)}{x+y}$
- ○ $-\frac{x(x+2y)}{x+y}$
- ○ $\frac{x(x+y)}{x+y}$
- ○ $-\frac{x(x+2y)}{x-y}$

Simplify:

## Q2

$$\frac{\frac{x^2-9y^2}{xy}}{\frac{2x+6y}{x^2}}$$

- ○ $\frac{x(x-y)}{y}$
- ○ $\frac{x(x+3y)}{2y}$
- ○ $\frac{x(x-3y)}{2y}$
- ○ $\frac{x(x-y)}{2y}$

## Q3

What algebraic method is primarily used to find the equation of an oblique asymptote?

- ○ Long or Synthetic Division
- ○ Factoring by grouping
- ○ Substitution
- ○ Graphical plotting only


LIVEWORKSHEETS

Simplify the rational expression:

## Q4

$$\frac{9x^2 - x^3}{x^2 - 3x - 54}$$

- $-\frac{x^2}{x+6}$
- $\frac{x^2}{x+3}$
- $\frac{x^2}{x+6}$
- $-\frac{x^2}{x-3}$

## Q5

Find a negative coterminal angle for $35°$:

- $-325°$
- $395°$
- $310°$
- $-410°$

## Q6

If the degree of the numerator polynomial is less than the degree of the denominator polynomial, the horizontal asymptote is:

- $x = 0$
- $y = 1$
- $y = 0$
- No horizontal asymptote

## Q7

Which value is NOT in the domain of the parent reciprocal function $f(x) = \frac{1}{x}$?

- ○ 3
- ○ $\frac{1}{3}$
- ○ 2
- ○ 0

## Q8

What is the value of $x$ for which the reciprocal function $f(x) = \frac{2}{-2x+5}$ is undefined?

- ○ $x = \frac{5}{2}$
- ○ $x = 3$
- ○ $x = 0$
- ○ $x = -\frac{7}{3}$

## Q9

Simplify the rational expression:

$$\frac{(7y - 3x)(5x - 1)}{(5x^3 + x^2)(3x - 7y)}$$

- ○ $-\frac{5x-1}{x^2(5x+1)}$
- ○ $\frac{(7y-3x)(5x-1)}{x^2(5x+1)(3x-7y)}$
- ○ $\frac{1}{x^2}$
- ○ $\frac{5x-1}{5x^3+x^2}$


LIVEWORKSHEETS

## Q10

(Check unit circle)The point $P\left(-\frac{1}{2}, \frac{\sqrt{3}}{2}\right)$ on the unit circle lies in which quadrant?

- Quadrant I
- Quadrant II
- Quadrant III
- Quadrant IV

## Q11

A rational function has an oblique asymptote when:

- Degree of numerator minus degree of denominator equals 1
- Degree of denominator is greater
- Degree of denominator minus degree of numerator equals 1
- Degree of numerator equals denominator

## Q12

What type of graph is produced by the parent reciprocal function

$$f(x) = \frac{1}{x}?$$

- Parabola
- Circle
- Hyperbola
- Line


LIVEWORKSHEETS

## Q13

Simplify:

$$\frac{3}{8p^2r} + \frac{5}{4p^2r}$$

- $\frac{13}{8p^2r}$
- $\frac{12}{8p^2r}$
- $\frac{12}{8pr}$
- $\frac{13}{8p^2r^2}$

## Q14

If the terminal side of angle $\theta$ intersects the unit circle at $P\left(-\frac{12}{13}, \frac{5}{13}\right)$, find $\cos\theta$ and $\sin\theta$:

- $\cos\theta = \frac{5}{13}, \sin\theta = \frac{12}{13}$
- $\cos\theta = \frac{5}{13}, \sin\theta = -\frac{12}{13}$
- $\cos\theta = -\frac{12}{13}, \sin\theta = \frac{5}{13}$
- $\cos\theta = -\frac{12}{13}, \sin\theta = -\frac{5}{13}$

## Q15

Find a positive coterminal angle for $-50°$:

- $-325°$
- $395°$
- $310°$
- $-410°$