

## Answers - Practice Exam:

1.  $\begin{matrix} x_1, y_1 & x_2, y_2 \\ (2, -4) & (-4, -4) \end{matrix}$   
$$\frac{-4 + 4}{-4 - 2}$$
$$= \frac{0}{-6}$$
$$= 0$$

2.  $18x - 3y = -162$   
$$\frac{-3y}{-3} = \frac{-18x - 162}{-3}$$
$$y = 6x + 54$$
$$m = 6 \quad b = 54$$

3.  $\begin{matrix} x_1, y_1 & x_2, y_2 \\ (-5, 3) & (-2, -2) \end{matrix}$

4.

$$m = \frac{-2 - 3}{-2 + 5}$$

$$m = \frac{-5}{3}$$

5.  $4(x-3) + 2y = 8x + 2$   
 $(4x - 12) + 2y = 8x + 2$   
 $2y = 8x - 4x + 2 + 12$   
 $2y = 4x + 14$   
 $y = 2x + 7$

(A)

6.  $-8x + 6y = 3$   
 $-6y = 8x + 3$   
 $y = \frac{8x}{-6} - \frac{1}{2}$   
 $y = -\frac{4x}{3} - \frac{1}{2}$

(D)

7.  $(5x + 2y) = 2$   
 $2y = -5x + 2$   
 $y = \left(\frac{-5}{2}\right)x + 1$   
 $\left(\frac{-2}{5}\right)$

(D)

$$8. \quad 32x^4y^2 - 16xy^3 + 48x^5y^3$$

$$= 16xy^2(2x^3 - y + 3x^4y)$$

$$9. \quad 4x^2 + 5x - 6$$

$$10. \quad 144x^2 - 25$$

$$(12x)^2 - (5)^2$$

$$(12x + 5)(12x - 5)$$

$$11. \quad 4x^2 + 5x - 6$$

$$\frac{8x - 3 = -24}{8 - 3 = 5}$$

$$4x^2 + 8x - 3x - 6$$

$$4x(x + 2) - 3(x + 2)$$

$$(4x - 3)(x + 2)$$

$$\frac{4x(x+2) - 3(x+2)}{(4x-3)(x+2)}$$

12.  $14a^2b^5c^3 - 21ab^3c^2 + 35ac^5$

$$7ac^2(2ab^5c - 3b^3 + 5c^3)$$

13.  $x^2 + 4x - 45$

$$(x+9)(x-5)$$

14.

$$2(2x-3y)(3x-y)$$
$$(4x-6y)(3x-y)$$

$$12x^2 - 4xy - 18xy + 6y^2$$

$$12x^2 - 22xy + 6y^2$$

15.

$$3(x^2 - 2x - 1) + 3(5x - 4 - 2x^2)$$

$$3x^2 - 6x - 3 + 15x - 12 - 6x^2$$

$$= -3x^2 + 9x - 15$$

Aliant = Rogers

16.  $y = 0.02x + 26$   $y = \$40$   
 $= 0.02(500) + 26$   
 $= \$36$

17.  $0.02x + 26 = 40 - 26$   
 $\frac{0.02x}{0.02} = \frac{14}{0.02}$   
 $x = 700$

18.  $y = 0.02x + 26$

19.  $(1.6)$

20. Slope:  $\frac{2}{3}$   
Point:  $(-2, 5)$   
 $(x_1, y_1)$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

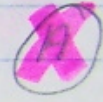
$$\frac{2}{3} = \frac{y - 5}{x + 2}$$

$$2(x + 2) = 3(y - 5)$$

$$2x + 4 = 3y - 15$$

$$2x - 3y + 4 + 15 = 0$$

$$2x - 3y + 19 = 0$$



21. Slope:  $\frac{1}{0}$  x y  
Point:  $(-6, -7)$   
 $(x, y)$

$$x = -6$$

$$x + 6 = 0$$



$$\begin{matrix} x_1 & y_1 & x_2 & y_2 \\ (-2, -1) & (6, 1) \end{matrix}$$

21. Slope: 0 x y.  
 Point:  $(-6, -7)$   
 $(x, y)$

$x = -6$   
 $x + 6 = 0$

$(x_1, y_1)$   $(x_2, y_2)$   
 $(-2, -1)$   $(6, k)$

22.  $\frac{1}{3} = \frac{k+1}{6+2}$

~~$\frac{1}{3} = \frac{k+1}{8}$~~

$3(k+1) = 8$   
 $3k+3 = 8-3$  (A)  
 $\frac{3k}{3} = \frac{5}{3}$   
 $k = \frac{5}{3}$

23.  $m = \frac{2}{3}$   
 $b = -2$


$y = \frac{1}{2}x - 2$

24.  $\sqrt[5]{64}$   
 $\sqrt[5]{2 \times 2 \times 2 \times 2 \times 2}$   
 $= 2 \sqrt[5]{2}$

25.  $\sqrt[3]{54}$   
 $\sqrt[3]{2 \times 3 \times 3 \times 3}$   
 $= 3 \sqrt[3]{2}$



26.  $\left(\frac{1}{27}\right)^{-\frac{2}{3}}$

$27^{\frac{2}{3}}$  

$(\sqrt[3]{27})^2$

$(3)^2$   
 $= 9$

27.  $(4\sqrt{13})^7$

$= 13^{\frac{7}{4}}$



28.  $(x^3 - 4)^{-2}$

29

200

28.

$$\frac{(x^3 y^{-4})^{-2}}{(x^2 y^3)^3}$$

$$\frac{x^{-6} y^{-8}}{x^6 y^9}$$

$$= x^{-12} y^{-17}$$

$$= \frac{1}{x^{12} y^{17}}$$

(A)

29.

380

$$2 \times 2 \times 5 \times 19$$

$$(2^2)(5)(19)$$

$$= 380$$

(A)

30.

(E)

32.

(A)

32. (A)

$$\begin{array}{r} 33. \quad \begin{array}{r} 9x + 5y = 15 \quad (1) \\ 4x + 10y = 30 \quad (2) \\ \hline \textcircled{1} \times 2 \quad -18x - 16y = -30 \quad (3) \\ \phantom{\textcircled{1} \times 2} \quad 4x + 10y = 30 \quad (2) \\ \hline -14x \quad = 0 \quad x = 0 \\ -14x \quad -14 \quad \phantom{=} \quad (0, 3) \end{array} \end{array}$$

$$\begin{array}{r} 34. \quad x(-3y) = 1 \\ \underline{2x + 4y = -18} \end{array}$$

$$x(-3y) = 1 + 3y$$

$$x = 1 + 3y$$

$$2(1 + 3y) + 4y = -18$$

$$2 + 6y + 4y = -18 - 2$$

$$\frac{10y}{10} = \frac{-20}{10}$$

$$y = -2$$

$$x = 1 + 3y$$

$$x = 1 + 3(-2)$$

$$x = 1 - 6$$

$$x = -5$$

$$(x, y) = (-5, -2)$$

$$x = 1 - 6$$

$$x = -5$$

$$(-5, -2) \quad (4)$$

35.  $6H + 12G = 198 \quad (1)$   
 $12H + 6G = 198 \quad (2)$

$(1) \times 2$   $-12H - 24G = -396 \quad (3)$

$12H + 6G = 198 \quad (2)$

$(3) - (2)$   $\frac{-18G}{-18} = \frac{-198}{-18}$

$$G = 11$$

$$G = \$11$$

$$(C)$$

$$6H + 12(11) = 198$$

$$6H + 132 = 198$$

$$\frac{6H}{6} = \frac{66}{6}$$

$$H = \$11$$

36. (A)

$$\begin{aligned} 37. \quad d &= \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2} \\ d &= \sqrt{(8 - 2)^2 + (6 - 2)^2} \\ d &= \sqrt{(6)^2 + (-8)^2} \\ d &= \sqrt{36 + 64} \end{aligned}$$

$$d = 10 \quad (A)$$

38. (10, 3) (4, 7)

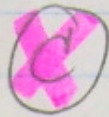
$$\left( \frac{14}{2}, \frac{10}{2} \right)$$

$$(7, 5) \quad (B)$$

39.

$$-3 \leq y \quad \cancel{C}$$

$$y \geq -3.$$



40.

$$x \geq -8$$

