M2 COMPAS–Type Multiple Choice Questions

1. Solve the system of equations: $\begin{cases} 2x + y = 6 \\ 3x - 2y = 2 \end{cases}$

(a) x = 3, y = –2 (b) x = 2, y = -3 (c) x = –1, y = 3 (d) x = 2, y = 2 (e) x = 2, y = –1

2. What is the equation of the line that contains (–2, 6) and (4, –3)?

(a) $y = \frac{3}{4}x - 5$ (b) $y = -\frac{3}{2}x + 3$ (c) $y = -\frac{3}{2}x - 3$ (d) $y = -\frac{3}{4}x + 3$ (e) $y = -\frac{4}{3}x - 3$

3. What is the equation of the line graphed below:

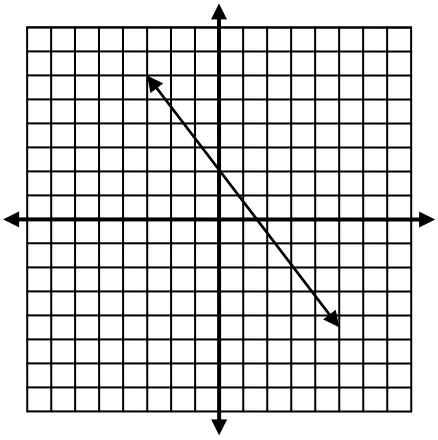
(a) $y = \frac{3}{4}x + 2$

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

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

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

(e) $y = \frac{4}{3}x + 2$



4. Which of the following equations has a graph that is perpendicular to the graph of $y = \frac{2}{3}x - 5$?

(a) $y = \frac{2}{3}x + 4$ (b) $y = \frac{2}{3}x - 5$ (c) $y = -\frac{3}{2}x + 4$ (d) $y = -\frac{2}{3}x + 4$ (e) $y = -5x + \frac{2}{3}$

5. The graph of $3x + 5y = 15$ has an *x*-intercept of:

(a) (0, 5) (b) (3,0) (c) (3, 5) (d) (0, 3) (e) (5, 0)

6. What is the equation of the line in the graph:

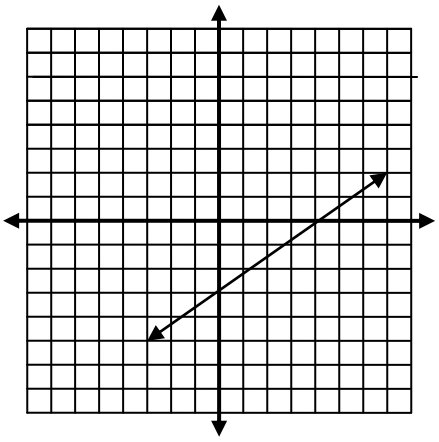
(a) $3x + 4y = 12$

(b) $4x + 3y = -12$

(c) $3x - 4y = 12$

(d) $4x + 3y = 12$

(e) $3x - 4y = -12$



7. What is the slope of the line $2x + 5y = 10$?

(a) $\frac{5}{2}$ (b) $\frac{2}{5}$ (c) $-\frac{5}{2}$ (d) $-\frac{2}{5}$ (e) 2

8. Which of the following equations has a graph parallel to the graph of $y = \frac{5}{3}x + 4$?

(a) $y = \frac{3}{5}x + 2$ (b) $y = \frac{5}{3}x + 2$ (c) $y = -\frac{3}{5}x + 2$ (d) $y = -\frac{5}{3}x + 2$ (e) $y = 4x + \frac{5}{3}$

9. If $x = -3$, what is the value of $2x^2 - 2x + 1$

(a) -1 (b) -21 (c) -13 (d) 25 (e) -11

10. If $x = -2$ and If $y = 3$, what is the value of $\frac{2x-3}{y-5}$

(a) $\frac{-7}{2}$ (b) $\frac{7}{2}$ (c) $\frac{-2}{7}$ (d) $\frac{2}{7}$ (e) $\frac{3}{5}$

11. Solve the system of equations: $\begin{cases} 2x + 3y = 7 \\ 2x - y = -5 \end{cases}$

(a) $(1, -3)$ (b) (0, 5) (c) $(-3, 1)$ (d) $(2, -1)$ (e) $(-1, 3)$

12. If x = 2 and y = -3, what is the value of $\frac{3(2x-y)}{x+y}$?

(a) 7 (b) -7 (c) 21 (d) –21 (e) -3

13. Solve for x: $3(x + 1) - 2(3x - 1) = 5(x - 2) + 7$

(a) -2 (b) -1 (c) 1 (d) 2 (e) 3

14. The average of a, b and c is:

(a) 3 (b) $\frac{abc}{3}$ (c) 75 (d) $\frac{a+b+c}{3}$ (e) $3a + 3c + 3c$

15. If $x = -3$, what is the value of $x^2 - 2x + 4$?

(a) –11 (b) 1 (c) 7 (d) 19 (e) –19

16. Simplify: $(3x^3 - 5x^2 + 2x - 3) - (5x^3 + 2x^2 + x - 2)$

(a) $2x^3 - 3x^2 + x + 1$ (b) $-2x^3 - 7x^2 + x - 1$ (c) $-2x^3 - 7x^2 + x + 1$ (d) $2x^3 + 7x^2 + x + 1$ (e) $-2x^3 - 7x^2 - x + 1$

17. What is the product of $(x - 3)$ and $(3x + 2)$

(a) $3x^2 - 7x - 6$ (b) $3x^2 + 7x - 6$ (c) $3x^2 - 7x - 1$ (d) $3x^2 - 7x - 5$ (e) $3x^2 - x - 6$

18. Solve for x: $\frac{2x}{3} - \frac{x}{4} = \frac{5}{2}$

(a) 12 (b) 4 (c) 6 (d) 1 (e) –6

19. Simplify: $\sqrt{75}$

(a) $5\sqrt{3}$ (b) $3\sqrt{5}$ (c) $25\sqrt{3}$ (d) $3\sqrt{25}$ (e) $5\sqrt{25}$

20. Simplify: $\sqrt[3]{64}$

(a) 2 (b) 8 (c) 32 (d) 8 (e) 4

21. Simplify: $\sqrt[3]{-54}$

(a) –27 (b) –18 (c) $-\sqrt[3]{54}$ (d) $-3\sqrt[3]{2}$ (e) $-2\sqrt[3]{3}$

22. Which of the following equations has a graph perpendicular to the graph of $y = 2x + 5$?

(a) $y = 2x - 5$ (b) $y = \frac{1}{2}x + 3$ (c) $y = -\frac{1}{2}x + 3$ (d) $y = \frac{2}{5}x + 3$ (e) $y = -\frac{5}{2}x + 3$

23. Simplify: $\frac{9a^3b^4 - 6a^2b^3 + 12ab^4}{3ab}$

(a) $3a^2b^3 - 6a^2b^3 + 12ab^4$ (b) $3a^2b^3 - 2ab^2 + 4b^3$ (c) $3a^2b^3 - 2ab^2 + 4ab^3$

(d) $3a^2b^3 + 2ab^2 - 4b^3$ (e) $3a^2b^3 + 2ab^2 - 4ab^3$

24. Which of the following equations has a graph parallel to the graph of $y = -3x - 2$?

(a) $y = -3x + 1$ (b) $y = -\frac{1}{3}x + 1$ (c) $y = \frac{1}{3}x + 1$ (d) $y = \frac{2}{3}x + 1$ (e) $y = -2x + 1$

25. Which of the following is a factor of $2x^2 + 3x - 5$?

(a) $x + 5$ (b) $2x + 5$ (c) $x + 1$ (d) $2x + 1$ (e) $2x - 1$

26. Which of the following expressions is the product of $(x - 2)(3x^2 + 4x - 1)$?

(a) $3x^3 - 6x^2 + 9x + 2$ (b) $3x^3 - 6x^2 + 9x + 1$ (c) $3x^3 + 2x^2 + 9x - 2$ (d) $3x^3 + 6x^2 - 9x + 1$ (e) $3x^3 - 2x^2 - 9x + 2$

27. Solve for x: $2x - 3 \leq 5$

(a) $x \leq -4$ (b) $x \geq -4$ (c) $x \leq 4$ (d) $x \leq -8$ (e) $x \geq 8$

28. Which of the following are the solutions of $x^2 + x = 6$?

(a) $x = 2, x = 3$ (b) $x = 2, x = -3$ (c) $x = 6, x = 1$ (d) $x = 6, x = -1$ (e) $x = 3, x = 0$

29. Which of the following equations is an equation for the line that passes through $(-2, 3)$ and $(1, -3)$?

(a) $y = 2x - 1$ (b) $y = 2x + 1$ (c) $y = -2x + 1$ (d) $y = -2x - 1$ (e) $y = -3x + 1$

30. Which of the following equation has a graph that is perpendicular to $3x + 4y = 4$?

(a) $y = \frac{3}{4}x + 1$ (b) $y = -\frac{3}{4}x + 1$ (c) $y = \frac{4}{3}x + 1$ (d) $y = -\frac{4}{3}x + 1$ (e) $y = \frac{1}{4}x + 1$