M2 COMPAS–Type Multiple Choice Questions

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

(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 3*x* + 5*y* = 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) 3*x* + 4*y*= 12

(b) 4*x* + 3*y*= –12

(c) 3*x* – 4*y*= 12

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

(e) 3*x* – 4*y*= –12

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

1. $\frac{5}{2}$ (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* = $\frac{5}{3}x+4$ ?

1. *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 $2x^{2}-2x+1$

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

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

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

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

(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(3*x* $–$ 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) 3*a* +3*c* + 3*c*

15. If *x* = – 3, what is the value of *x*2 – 2*x* + 4 ?

(a) –11 (b) 1 (c) 7 (d) 19 (e) –19

16. Simplify: (3x3 – 5x2 +2*x* – 3) – (5x3 + 2*x*2 + *x* – 2)

(a) 2x3 – 3x2 + *x* + 1 (b) –2x3 – 7x2 + *x* – 1 (c) –2x3 – 7x2 + *x* + 1 (d) 2x3 + 7x2 + *x* + 1 (e) –2x3 – 7x2 – *x* + 1

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

(a) 3x2 – 7*x* – 6 (b) 3x2 + 7*x* – 6 (c) 3x2 – 7*x* – 1 (d) 3x2 – 7*x* – 5 (e) 3x2 – *x* – 6

18. Solve for *x*: 

(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* = 2*x* – 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: $\frac{9a^{3}b^{4}-6a^{2}b^{3}+12ab^{4}}{3ab}$

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

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

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

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

25. Which of the following is a factor of 2x2 + 3*x* – 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)( 3x2 + 4*x* – 1) ?

(a) 3x3 – 6x2 +9*x* + 2 (b) 3x3 – 6x2 +9*x* + 1 (c) 3x3 + 2x2 +9*x* – 2 (d) 3x3 + 6x2 –9*x* + 1 (e) 3x3 – 2x2 – 9*x* + 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) $y= \frac{4}{3}x+1$ (c) $y=-\frac{4}{3}x+1$ (d) $y= \frac{1}{4}x+1$