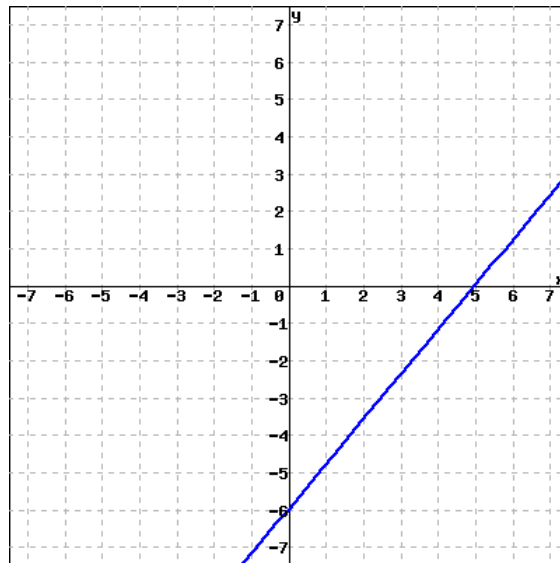


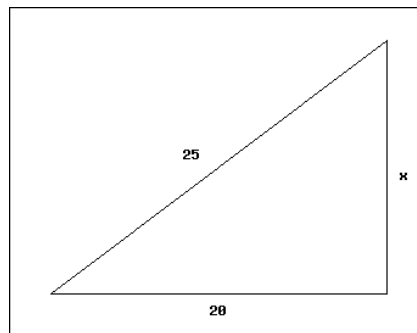
MTH 05 Sample Final Exam, Version 4

1. What is the slope of the line graphed below?



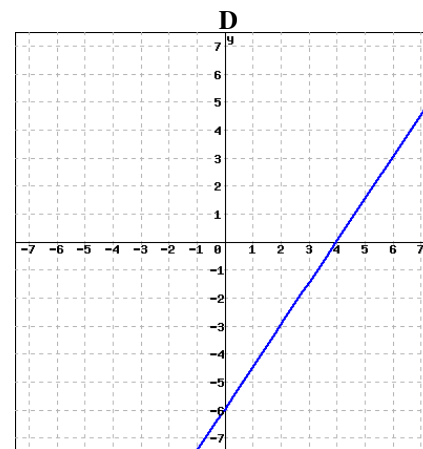
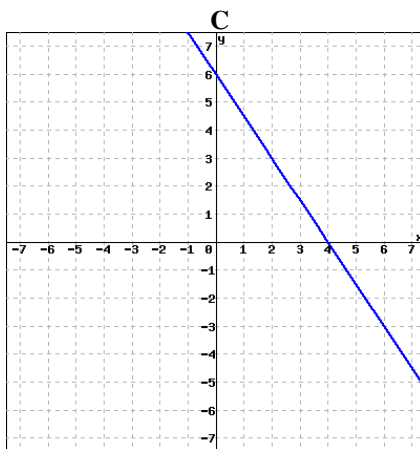
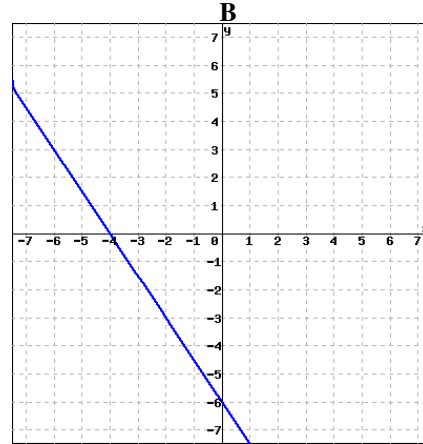
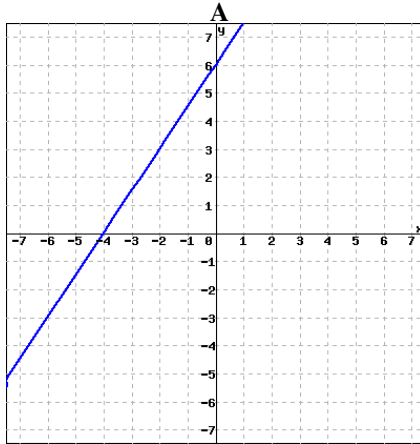
- A. $-\frac{5}{6}$
- B. $-\frac{6}{5}$
- C. $\frac{6}{5}$
- D. $\frac{5}{6}$

2. What is the value of x in the right triangle?



- A. $\sqrt{15}$
- B. 5
- C. $\sqrt{5}$
- D. 15

3. Which of the following is the graph of the equation $-3x + 2y = -12$?



4. Find the equation of the horizontal line passing through the point $(-9, -7)$.

- A. $y = -7$
- B. $y = \frac{7}{9}x - 7$
- C. $x = -9$
- D. $y = x - 7$

5. Given $a = -4$ and $b = 2$, evaluate the expression given below.

$$a^2 + b^2a + ab$$

- A. -8
- B. 8
- C. -40
- D. 24

6. Which of the following is a factor of the polynomial?

$$30cx - 25cy + 54dx - 45dy$$

- A. $6x - 5y$
- B. $5c - 9d$
- C. $6x + 5y$
- D. $5x + 9y$

7. Which of the following is a factor of the polynomial?

$$2x^2 + 25x + 33$$

- A. $x - 11$
- B. $2x - 3$
- C. $x + 11$
- D. $2x + 11$

8. Find all solutions to the equation.

$$x^2 + x = 12$$

- A. *Only* $x = 3$
- B. $x = 1$ or $x = -6$
- C. $x = 3$ or $x = -4$
- D. *Only* $x = 1$

9. Simplify.

$$3x^{-6} x^7 y^6 x^{-7}$$

- A. $3x^6 y^6$
- B. $\frac{3y^6}{x^6}$
- C. 3
- D. $-\frac{3y^6}{x^6}$

10. Solve for x .

$$\frac{x+6}{22} = \frac{x+3}{12}$$

- A. $x = -\frac{4}{5}$
- B. $x = -\frac{1}{5}$
- C. $x = \frac{3}{5}$
- D. $x = \frac{4}{5}$

11. Simplify.

$$8\sqrt{2} - 3\sqrt{50}$$

- A. $-67\sqrt{2}$
- B. $7\sqrt{2}$
- C. $-7\sqrt{2}$
- D. $16 - 6\sqrt{5}$

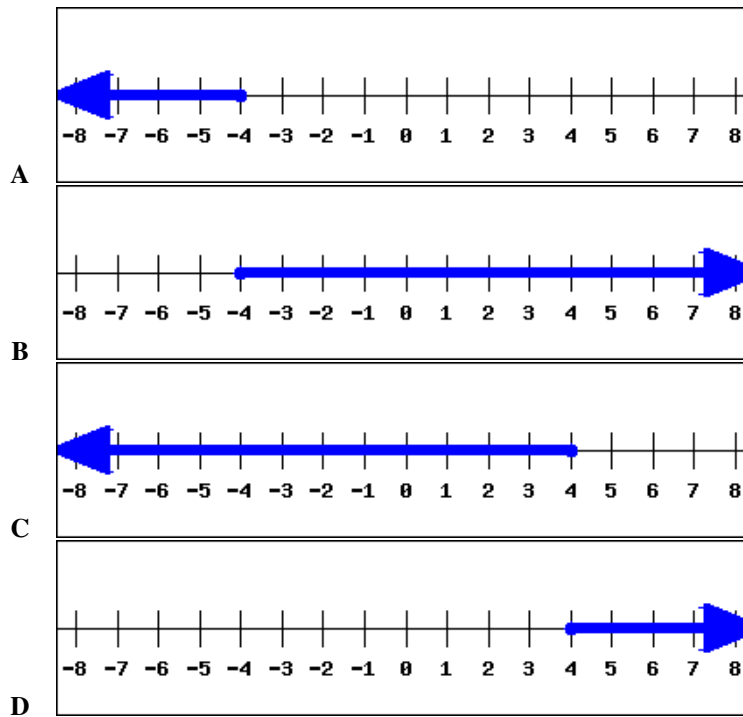
12. Factor completely.

$$96x^2y - 150y^3$$

- A. $6y(16x^2 - 25y^2)$
- B. $6y(4x - 5y)^2$
- C. $6(16x^2y - 25y^3)$
- D. $6y(4x - 5y)(4x + 5y)$

13. Find the graph of the solution to the inequality.

$$-8x - 2 \geq 5x + 50$$



14. Multiply.

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

- A. $2x^3 - x^2 - 16x + 15$
- B. $2x^3 + 9x^2 - 16x + 15$
- C. $2x^3 - x^2 - 6x + 15$
- D. $2x^3 + 9x^2 - 6x + 15$

15. Simplify completely.

$$\sqrt{2}(\sqrt{14} + 4\sqrt{2})$$

- A. $2\sqrt{7} + 4\sqrt{2}$
- B. $4\sqrt{7}$
- C. $2\sqrt{7} + 8$
- D. $7\sqrt{2} + 8$

16. Simplify completely.

$$\frac{-12x^{17} - 9x^6 + 6x^2}{-3x^2}$$

- A. $-12x^{17} - 9x^6$
- B. $4x^{15} + 3x^4$
- C. $4x^{15} - 3x^4 + 2$
- D. $4x^{15} + 3x^4 - 2$

17. Simplify completely.

$$\frac{\sqrt{2}\sqrt{70}}{\sqrt{5}}$$

- A. $2\sqrt{14}$
- B. $4\sqrt{7}$
- C. $2\sqrt{7}$
- D. $7\sqrt{2}$

18. Simplify Completely.

$$(19x^2 - 18x + 20) - (-8x^2 - 2x + 2)$$

- A. $11x^2 - 16x + 18$
- B. $27x^2 + 20x + 18$
- C. $27x^2 - 16x + 22$
- D. $27x^2 - 16x + 18$

19. Solve for y.

$$z = 5x + 4y$$

- A. $y = \frac{z + 5x}{4}$
- B. $y = \frac{z - 5x}{4}$
- C. $y = \frac{z}{4} - 5x$
- D. $y = 4(z - 5x)$

20. Find the equation of the line passing through the points $(-5, 14)$ and $(3, -18)$. Write the equation in slope-intercept form.

- A. $y = 4x + 34$
- B. $y = -4x - 6$
- C. $y = 4x - 30$
- D. $y = -4x + 14$

21. Find the slope and y-intercept for the graph of the equation.

$$4x - 7y = -42$$

- A. Slope = $-\frac{4}{7}$ and y-intercept = (0, 6)
- B. Slope = $\frac{7}{4}$ and y-intercept = (0, -42)
- C. Slope = $\frac{4}{7}$ and y-intercept = (0, 6)
- D. Slope = $-\frac{7}{4}$ and y-intercept = (0, -42)

22. Simplify.

$$\frac{32x^6(y^{-4})^4}{16x^5y^{-30}}$$

- A. $2xy^{14}$
- B. $\frac{2x^{11}}{y^{46}}$
- C. $\frac{x}{2y^{46}}$
- D. $2x^{11}y^{30}$

23. What is the value of the x-coordinate of the solution to the system of equations.

$$\begin{aligned}x + 4y &= 3 \\ -4x + 5y &= -12\end{aligned}$$

- A. $x = 4$
- B. $x = 3$
- C. $x = 1$
- D. $x = 2$

24. Solve for x.

$$30 + 2x = 2(3 + 4x)$$

- A. $x = 0$
- B. $x = 6$
- C. $x = 4$
- D. $x = 2$

25. If y represents a number, which equation is a correct translation of the sentence?

92 less than 2 times a number is 60.

- A. $2(92 - y) = 60$
- B. $92 - 2y = 60$
- C. $2y - 92 = 60$
- D. $2(y - 92) = 60$

Answers.

- 1.C
- 2.D
- 3.D
- 4.A
- 5.A
- 6.A
- 7.C
- 8.C
- 9.B
- 10.C
- 11.C
- 12.D
- 13.A
- 14.A
- 15.C
- 16.D
- 17.C
- 18.D
- 19.B
- 20.B
- 21.C
- 22.A
- 23.B
- 24.C
- 25.C