Student: _____	**Instructor:** Ray Brown	**Assignment:** Final Review HW ch 10_12 & 13
Date: _____	**Course:** M050 Sum17 CAI 10052 G43	

1. Determine whether the ordered pair is a solution to the given equation.

$y - 8x = -1, \left(\frac{1}{4}, 1\right)$

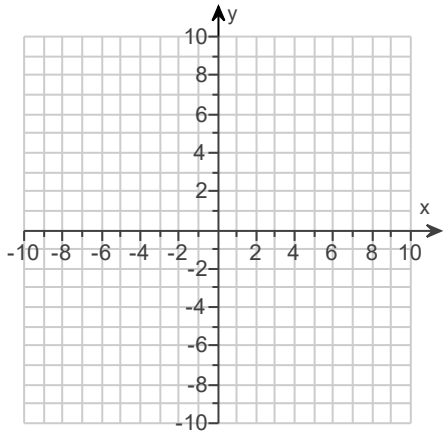
Is $\left(\frac{1}{4}, 1\right)$ a solution to the equation?

- ○ No
- ○ Yes

2. Graph the linear equation.

$y = \frac{1}{2}x + 5$

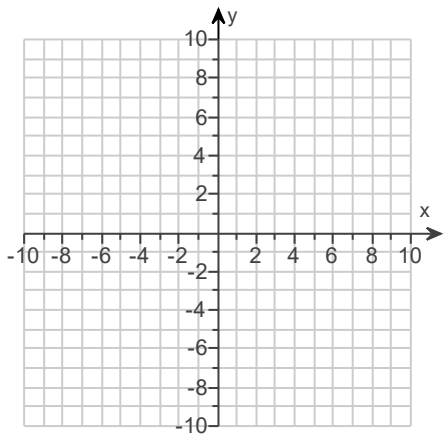
Use the graphing tool to graph the linear equation.



3. Graph the linear equation by solving for y first.

$-x + 4y = 12$

Use the graphing tool to graph the linear equation.



4. Using the slope formula, find the slope of the line through the given points.

(7,9) and (5,9)

What is the slope of the line? Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- ○ **A.** The slope of the line is _____. (Type an integer or a simplified fraction.)
- ○ **B.** The slope of the line is undefined.

5. Find the slope, if it exists, of the line containing the pair of points $(6, -6)$ and $(-9, -6)$.

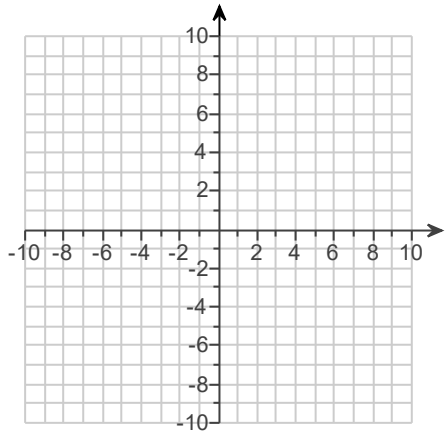
Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- **A.** The slope of the line is _____. (Type an integer or a simplified fraction.)
- **B.** The slope is undefined.

6. Graph the line with the given point and slope.

The line through $(-1, -2)$ with slope 2.

Use the graphing tool on the right to graph the line.



7. Complete the following parts for $x - 2y = -8$.

(a) Write the equation in slope-intercept form.
(b) Give the slope and y-intercept of the line.

(a) The slope-intercept form of the line is $y =$ _____.
(Simplify your answer. Use integers or fractions for any numbers in the expression.)

(b) The slope is _____. (Type an integer or a fraction.)

The y-intercept is _____. (Type an integer or a fraction.)

8. Complete the following parts for $3x - 4y = 8$.

(a) Write the equation in slope-intercept form.
(b) Give the slope and y-intercept of the line.

(a) The slope-intercept form of the line is $y =$ _____.
(Simplify your answer. Use integers or fractions for any numbers in the expression.)

(b) The slope is _____. (Type an integer or a fraction.)

The y-intercept is _____. (Type an integer or a fraction.)

9. Evaluate.

$(-41)^0$

$(-41)^0 =$ _____

10. Simplify the expression. Assume that all variables represent nonzero numbers.

$7(-xy^2)(x^6y)$

$7(-xy^2)(x^6y) =$ _____
(Use positive exponents only.)

11. Simplify the expression completely.

$(-4x)^2\left(3x^4\right)^5$

$(-4x)^2\left(3x^4\right)^5 =$ _____
(Simplify your answer. Use integers or fractions for any numbers in the expression.)

12. Simplify the expression. Assume that all variables represent nonzero numbers.

$\left(a^4b\right)^3\left(a^7b^6\right)^4$

$\left(a^4b\right)^3\left(a^7b^6\right)^4 =$ _____

13. Add the polynomials.

$\left(6a^4b^2 + 5a^2b\right) + \left(a^2b - 6a^4b^2\right)$

The sum of the polynomials is _____. (Simplify your answer.)

14. Subtract the polynomials.

$\left(5x^3y + 4x^4y^4\right) - \left(2x^3y - 3x^4y^4\right)$

The difference of the polynomials is _____.
(Simplify your answer. Do not factor.)

15. Subtract the polynomials.

$(5w^5 + 8w^2 - 3) - (8w^5 - 6w^2 + 12)$

$(5w^5 + 8w^2 - 3) - (8w^5 - 6w^2 + 12) =$ _____
(Simplify your answer.)

16. Multiply.

$(2x + 3)x^2$

$(2x + 3)x^2 =$ _____

17. Multiply.

$8x(5x^2 + 7)$

The product is _____.
(Simplify your answer.)

18. Multiply and simplify the expression.

$(9b - 1)(9b + 1)$

$(9b - 1)(9b + 1) =$ _____

19. Multiply and simplify the expression.

$(14y + 5)(y - 6)$

$(14y + 5)(y - 6) =$ _____

20. Multiply.

$(5 - 8x)(5 + 8x)$

$(5 - 8x)(5 + 8x) =$ _____

21. Multiply.

$(9m + 5n)(9m - 5n)$

$(9m + 5n)(9m - 5n) =$ _____

22. Multiply.

$\left(x^5 + y^4\right)\left(x^5 - y^4\right)$

The product is _____. (Simplify your answer.)

23. Multiply.

$(9b + 4)^2$

$(9b + 4)^2 =$ _____

24. Simplify.

$\left(a^{-5}\right)^{-6}$

$\left(a^{-5}\right)^{-6} =$ _____
(Simplify your answer. Type exponential notation using positive exponents.)

25. Divide.

$$\frac{12x^4 - 4x + 8}{4x}$$

$\frac{12x^4 - 4x + 8}{4x} =$ _____ (Simplify your answer.)

26. Divide.

$$\frac{18w^6 - 48w^4 + 24w^2}{6w^2}$$

The solution is _____.
(Simplify your answer.)

27. Factor.

$10x^3(x-3)-5x(x-3)$

Select the correct choice below and fill in any answer boxes in your choice.

- **A.** $10x^3(x-3)-5x(x-3)=$ _____
- **B.** The expression is not factorable.

28. Factor the trinomial completely.

$x^2+33x+59$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- **A.** $x^2+33x+59=$ _____ (Factor completely.)
- **B.** The polynomial is prime.

29. Factor the trinomial.

$y^2+12y+32$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- **A.** $y^2+12y+32=$ _____
- **B.** The trinomial is prime.

30. Factor the trinomial.

$n^2+18n+81$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- **A.** $n^2+18n+81=$ _____
- **B.** The trinomial is prime.

31. Factor the following binomial completely.

x^2-4

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- **A.** $x^2-4=$ _____ (Factor completely.)
- **B.** The polynomial is prime.

32. Factor as a perfect square trinomial whenever possible.

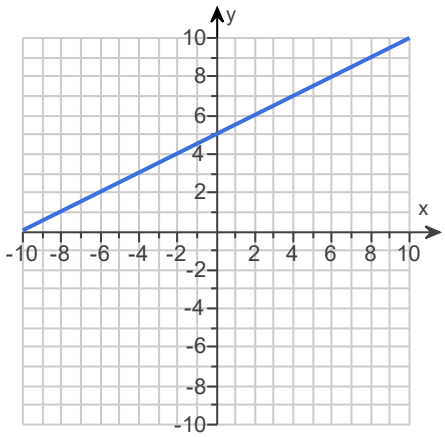
$x^2 - 10x + 25$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

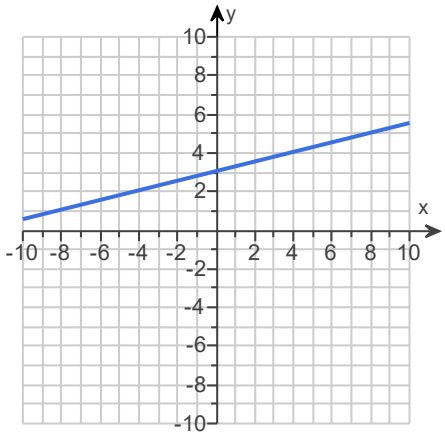
- **A.** $x^2 - 10x + 25 =$ _____ (Factor completely.)
- **B.** The polynomial is prime.

1. Yes

2.



3.



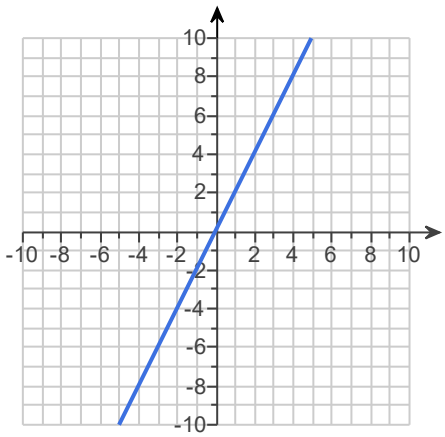
---

4. A. The slope of the line is **0**. (Type an integer or a simplified fraction.)

---

5. A. The slope of the line is **0**. (Type an integer or a simplified fraction.)

6.



---

7. $\frac{1}{2}x + 4$

$\frac{1}{2}$

4

---

8. $\frac{3}{4}x - 2$

$\frac{3}{4}$

-2

---

9. 1

---

10. $-7x^7y^3$

---

11. $3888x^{22}$

---

12. $a^{40}b^{27}$

---

13. $6a^2b$

---

14. $3x^3y + 7x^4y^4$

---

15. $-3w^5 + 14w^2 - 15$

---

16. $2x^3 + 3x^2$

---

17. $40x^3 + 56x$

---

18. $81b^2 - 1$

---

19. $14y^2 - 79y - 30$

---

20. $25 - 64x^2$

---

21. $81m^2 - 25n^2$

22. $x^{10} - y^8$

23. $81b^2 + 72b + 16$

24. a^{30}

25. $3x^3 - 1 + \frac{2}{x}$

26. $3w^4 - 8w^2 + 4$

27. A. $10x^3(x - 3) - 5x(x - 3) =$ **$5x(x - 3)\left(2x^2 - 1\right)$**

28. B. The polynomial is prime.

29. A. $y^2 + 12y + 32 =$ **$(y + 4)(y + 8)$**

30. A. $n^2 + 18n + 81 =$ **$(n + 9)(n + 9)$**

31. A. $x^2 - 4 =$ **$(x + 2)(x - 2)$** (Factor completely.)

32. A. $x^2 - 10x + 25 =$ **$(x - 5)^2$** (Factor completely.)