Student: _____ **Date:** _____	**Instructor:** Deb Wertz **Course:** MAP102 Master (Custom ISBN)	**Assignment:** Homework #29

1. Solve the following equation.

$(x + 5)(4x - 3) = 0$

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

- **A.** The solution set is $\{$ _____ $\}$.
  (Simplify your answer. Use a comma to separate answers as needed.)
- **B.** The solution set is $\varnothing$.

---

2. Solve the following equation.

$4(6x - 7)(5x + 6) = 0$

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

- **A.** The solution set is $\{$ _____ $\}$.
  (Simplify your answer. Use a comma to separate answers as needed.)
- **B.** The solution set is $\varnothing$.

---

3. Solve the equation.

$r^2 + 7r + 12 = 0$

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

- **A.** The solution set is $\{$ _____ $\}$.
  (Use a comma to separate answers as needed. Use integers or fractions for any numbers in the expression.)
- **B.** The solution set is $\varnothing$.

---

4. Solve the equation.

$12x^2 + 11x - 56 = 0$

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

- **A.** The solution set is $\{$ _____ $\}$.
  (Type an integer or a simplified fraction. Use a comma to separate answers as needed.)
- **B.** The solution set is $\varnothing$.

---

5. Solve the following equation.

$z^2 + 18 = 11z$

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

- **A.** The solution set is $\{$ _____ $\}$.
  (Simplify your answer. Use a comma to separate answers as needed.)
- **B.** The solution set is $\varnothing$.

---

6. Solve the equation.

$x(5x + 14) = 3$

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

- **A.** The solution set is $\{\quad\}$.
  (Type an integer or a simplified fraction. Use a comma to separate answers as needed.)
- **B.** The solution set is $\varnothing$.

---

7. Solve the equation.

$x^2 - 8x = x(5 + x)$

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

- **A.** The solution set is $\{\quad\}$.
  (Use a comma to separate answers as needed. Use integers or fractions for any numbers in the expression.)
- **B.** The solution set is $\varnothing$.

---

8. Solve the following equation.

$x^2 - 6x - 16 = 0$

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

- **A.** The solution set is $\{\quad\}$.
  (Simplify your answer. Use a comma to separate answers as needed.)
- **B.** The solution set is $\varnothing$.

---

9. Solve the following equation.

$x^2 - 2x = 24$

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

- **A.** The solution set is $\{\quad\}$.
  (Simplify your answer. Use a comma to separate answers as needed.)
- **B.** The solution set is $\varnothing$.

---

10. Solve the following equation.

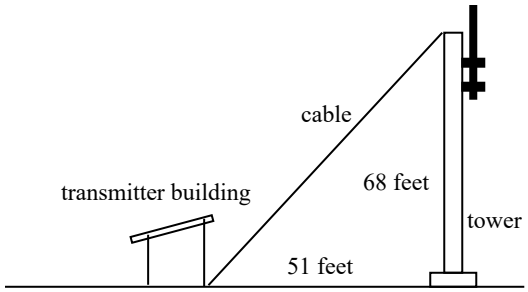
$3x^2 = -8x$

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

- **A.** The solution set is $\{\quad\}$.
  (Simplify your answer. Use a comma to separate answers as needed.)
- **B.** The solution set is $\varnothing$.

---

11. An electrician needs to run a cable from the top of a 68-foot tower to a transmitter box located 51 feet away from the base of the tower. Find how long he should cut the cable.



The electrician should cut a cable that is _____ (1) _____

(1) ○ ft^2.
○ ft.

12. If the cost, C(x), for manufacturing x units of a certain product is given by

$C(x) = x^2 - 15x + 64$

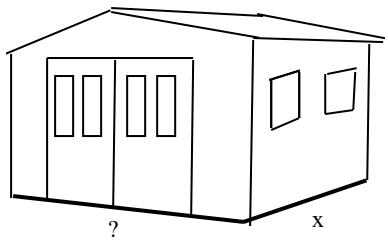
find the number of units manufactured at a cost of $8750.

The number of units is _____.

13. While hovering near the top of a waterfall in a national park at 3136 feet, a helicopter pilot accidentally drops his sunglasses. The height h(t) of the sunglasses after t seconds is given by the polynomial function $h(t) = -16t^2 + 3136$. When will the sunglasses hit the ground?

The sunglasses will hit the ground after _____ seconds.

14. The floor of a shed given on the right has an area of 119 square feet. The floor is in the shape of a rectangle whose length is 3 feet less than twice the width. Find the length and the width of the floor of the shed.



The length of the floor of the shed is _____ (1) _____ and the width is _____ (2) _____

(1) ○ ft ○ ft^2 (2) ○ ft^2. ○ ft.

1. A. The solution set is $\left\{-5, \frac{3}{4}\right\}$.(Simplify your answer. Use a comma to separate answers as needed.)

---

2. A. The solution set is $\left\{\frac{7}{6}, -\frac{6}{5}\right\}$. (Simplify your answer. Use a comma to separate answers as needed.)

---

3. A. The solution set is $\{-3, -4\}$.
(Use a comma to separate answers as needed. Use integers or fractions for any numbers in the expression.)

---

4. A. The solution set is $\left\{\frac{7}{4}, -\frac{8}{3}\right\}$.
(Type an integer or a simplified fraction. Use a comma to separate answers as needed.)

---

5. A. The solution set is $\{2,9\}$.(Simplify your answer. Use a comma to separate answers as needed.)

---

6. A. The solution set is $\left\{\frac{1}{5}, -3\right\}$.
(Type an integer or a simplified fraction. Use a comma to separate answers as needed.)

---

7. A. The solution set is $\{0\}$.
(Use a comma to separate answers as needed. Use integers or fractions for any numbers in the expression.)

---

8. A. The solution set is $\{-2,8\}$.(Simplify your answer. Use a comma to separate answers as needed.)

---

9. A. The solution set is $\{6, -4\}$.(Simplify your answer. Use a comma to separate answers as needed.)

---

10. A. The solution set is $\left\{0, -\frac{8}{3}\right\}$.(Simplify your answer. Use a comma to separate answers as needed.)

---

11. 85

(1) ft.

---

12. 101

---

13. 14

---

14. 14

(1) ft

$8\frac{1}{2}$

(2) ft.