

1. Determine if each equation represents a polynomial equation.

a. _____ $y = x^2 - 3$

b. _____ $y = 3x^4 + 7x - 5$

c. _____ $y = \frac{2}{x} + x^2$

d. _____ $y = x + 5$

e. _____ $y = |x + 5|$

f. _____ $y = 3^x + 5x$

g. _____ $y = 3x^5 - 2x^3 + 5x - 7$

2-5. Solve each equation; indicate any multiplicities. Then write the degree of the equation.

2. $(x - 2)^6(x + 5)^4(2x + 7) = 0$

3. $x^2(3x - 9)(4x + 5)^2 = 0$

4. $(x + 1)(2x + 1)^7(x^2 + x - 7) = 0$

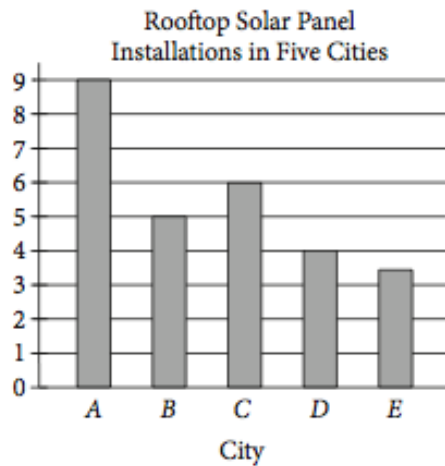
5. $x(9x - 3)(2x + 12)(x^2 + 4) = 0$

6

1 decagram = 10 grams 1,000 milligrams = 1 gram
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A hospital stores one type of medicine in 2-decagram containers. Based on the information given in the box above, how many 1-milligram doses are there in one 2-decagram container?

- A) 0.002
- B) 200
- C) 2,000
- D) 20,000



The number of rooftops with solar panel installations in 5 cities is shown in the graph above. If the total number of installations is 27,500, what is an appropriate label for the vertical axis of the graph?

- A) Number of installations (in tens)
- B) Number of installations (in hundreds)
- C) Number of installations (in thousands)
- D) Number of installations (in tens of thousands)

8-13. Solve each equation; indicate any multiplicities.

8. $x^4 - 13x^2 + 36 = 0$

9. $8c^3 = -125$

10. $4z^5 - 17z^3 + 4z = 0$

11. $x^3 + 3x^2 - 14x = 20$

12. $p^4 + 4p^2 - p - 4 = 0$

13. $x^6 - 64 = 0$

14. Use the graph of $g(x)$ to find each of the following.

- Relative Minimum
- Value(s) of x at which there is a relative minimum.
- Absolute Minimum
- Relative Maximum
- Absolute Maximum
- X-Intercept(s)
- Zero(es)

