Homework Day 0   **Name:** _____ **Per:** _____

Remember to show your work to receive credit! Use separate paper, if needed. ☺

Find the value of the following:

1. If a license plate has two letters followed by five digits, how many license plates are possible?

2. If a license plate has two letters followed by five digits, but there may be no repetition, how many license plates are possible?

3. In a club with ten members, in how many ways can they choose four officers – president, vice president, secretary, and treasurer?

4. In a club with ten members, in how many ways can they choose four people for a service project committee?
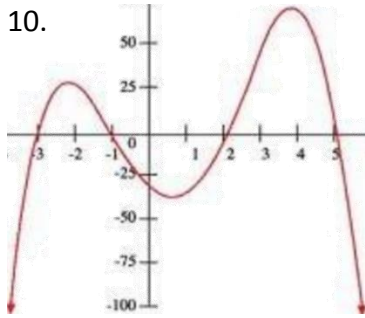
Factor the following COMPLETELY:

5. $x^2 - 7x - 8$ = _____

6. $2x^2 - 32$ = _____

7. $2x^2 + 7x + 6$ = _____
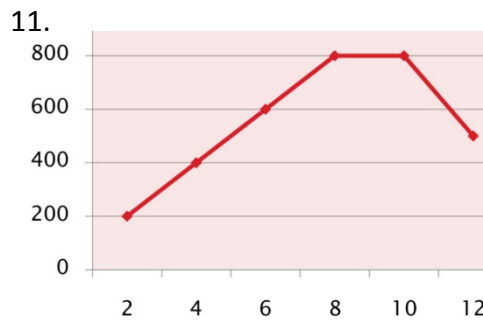
8. $x^3 - 9x + 2x^2 - 18$ = _____

9. **Evaluate each given p(x) and g(x).** $p(x) = 2x^2 - 8$ **g(x) = 9 - 3x**

   a. p(3) _____

   b. p(x – 3) _____

   c. p(x – 3) + g(x²) _____

   d. p(3x) _____

   e. 2g(x + 1) _____

   f. p(x – 3) – g(x + 1) _____

Evaluate the following using each function _f_ shown.

10.
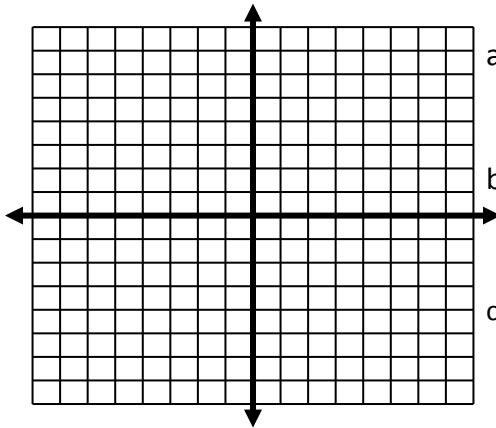

a. f(-3) = _____

b. f (_____) = 25

c. Domain:

_____

d. Range:

_____

11.

a. f(4) = _____

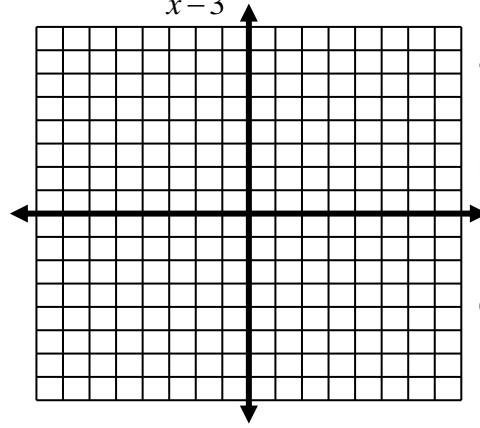b. f(1) = _____

c. Domain:

_____

d. Range:

_____

For each equation, draw a graph, indicating at least 6 exact points. Then tell its domain, its range, and other requested information. (Hint: Be sure your points give a complete picture of the shape.)

12. g(x)= $\sqrt{x+2}$

a. g(-1) = _____

b. g(7) = _____

c. g(-4) = _____

D: _____   R: _____

Transformed from parent: _____

13. $f(x) = \dfrac{2}{x-3} + 1$

a. f(3) = _____

b. H.A. :

_____

c. V.A. :

_____

D: _____   R: _____

Transformed from parent: _____