

Secondary Math III
Unit 1 Review
Assignment 1.5

Name _____

Period _____

Show work to receive credit.

1. Given a function $f(x) = 2x^2 + 5x - 3$

Find

$$f(-2) =$$

$$f(7) =$$

$$f(-1) =$$

2. Which expression is equivalent to the expression $(2n + 1)(n + 3) - 4$?

a. $2n(n + 3) + n - 1$

b. $(n + 4)(n - 3) + 2$

c. $(2n + 3)(n + 1) - 4$

d. $(n + 2)(n + 2) + n - 6$

Add, subtract or multiply the polynomials.

3. $(12x^2 - 6x + 9) + (3x^2 + 8x - 1)$

4. $(-4y^3 - 6y + 8) - (-2y^3 + y^2 - 5y)$

5. $(9x + 7)(3x - 6)$

6. $(3n + 2)(n + 3)$

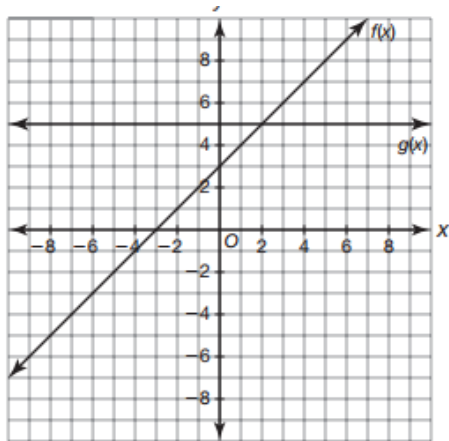
7. $(k - 2)(k - 3)$

8. Consider the graphs of $f(x)$ and $g(x)$ below.

a. What function family does each function belong to (linear, quadratic or exponential)?

b. Predict the function family that $f(x) + g(x)$ would belong to.

c. Graph $h(x) = f(x) + g(x)$



x	$f(x)$	$g(x)$	$h(x)$

9. Factor the polynomial expression:

a. $45x^2y - 60xy$

e. $6x^2 - 5x - 4$

b. $x^2 - 3x - 18$

f. $25x^2 - 81$

c. $m^2 - 14m + 33$

g. $2x^3 + 32x^2$

d. $2f^2 + 20f + 32$

h. $3x^2 - 13x - 10$

10. Solve the linear equation:

a. $(9 - 2a) - (4 + 2a) = -(2 - 3a) - a$

b. $\frac{2}{3}x - 2x = 20$

11. Solve the quadratic equations by factoring.

a. $x^2 + x = 6$

c. $2x^2 - x = 6$

b. $x^2 - 5x = 0$

d. $x^3 - 25x = 0$

12. Solve the inequality. Express the result with a graph on a number line and with interval notation.

a. $5x + 2 \leq 17$

b. $-2(p + 3) < -4$

c. $-2x - 3 \geq -5$

13. Given $f(x) = 3x^3 - 5x^2 + 9x + 7$ and $g(x) = 2x^3 + 11x - 15$, find the following:

a. $f(x) + g(x)$

b. $f(x) - g(x)$

c. $f(1) + g(2)$

14. Use algebra to show whether or not the two expressions are equivalent:

$(x + 3)(x + 1) + x^2$ and $2x(x + 1) + 3$

15. Find the solutions of $x^2 - 7x + 12 = 0$