Name: _____ Date: _____

Fresh Math

Average Rate Change Polynomials - Medium

Find the average rate of change of f over the interval.

1. $f(x) = x^2 + 4x + 7, \quad 2 \le x \le 5$

2. $f(x) = -x^2 - 2x + 3, \quad 3 \le x \le 7$

3. $f(x) = x^2 + 6x + 9, \quad -2 \le x \le 2$

4. $f(x) = 2x^2 + 3x + 8, \quad -3 \le x \le 0$

5. $f(x) = 3x^2 + 4x - 1, \quad -2 \le x \le -1$

6. $f(x) = -3x^2 + 7x + 5, \quad -2 \le x \le 1$

7. $f(x) = 3x^2 - 7, \quad 2 \le x \le 5$

8. $f(x) = 3x^2 + x - 6, \quad 0 \le x \le 3$

9. $f(x) = -x^2 + 2x + 9, \quad -3 \le x \le 0$

10. $f(x) = -3x^2 - 4x - 4, \quad -4 \le x \le -2$

Name: _____ Date: _____

Fresh Math

Average Rate Change Polynomials - Medium

Find the average rate of change of f over the interval.

11. $f(x) = 4x^2 - 4x + 8, \quad -2 \le x \le 2$

12. $f(x) = 4x^2 + 6x + 2, \quad 3 \le x \le 7$

13. $f(x) = 4x^2 - 3x - 8, \quad 2 \le x \le 3$

14. $f(x) = -3x^2 - 8x + 8, \quad -1 \le x \le 2$

15. $f(x) = -3x^2 - 3x + 5, \quad -3 \le x \le 1$

16. $f(x) = 4x^2 + 5x - 5, \quad 2 \le x \le 3$

17. $f(x) = -x^2 - x, \quad 1 \le x \le 4$

18. $f(x) = 2x^2 - 6x - 7, \quad -1 \le x \le 1$

19. $f(x) = -4x^2 + 2x - 2, \quad 1 \le x \le 2$

20. $f(x) = -4x^2 + 5x + 6, \quad -3 \le x \le 0$

Average Rate Change Polynomials - Medium - Answer Key

1. $f(x) = x^2 + 4x + 7, \quad 2 \le x \le 5$
   11

2. $f(x) = -x^2 - 2x + 3, \quad 3 \le x \le 7$
   -12

3. $f(x) = x^2 + 6x + 9, \quad -2 \le x \le 2$
   6

4. $f(x) = 2x^2 + 3x + 8, \quad -3 \le x \le 0$
   -3

5. $f(x) = 3x^2 + 4x - 1, \quad -2 \le x \le -1$
   -5

6. $f(x) = -3x^2 + 7x + 5, \quad -2 \le x \le 1$
   10

7. $f(x) = 3x^2 - 7, \quad 2 \le x \le 5$
   21

8. $f(x) = 3x^2 + x - 6, \quad 0 \le x \le 3$
   10

9. $f(x) = -x^2 + 2x + 9, \quad -3 \le x \le 0$
   5

10. $f(x) = -3x^2 - 4x - 4, \quad -4 \le x \le -2$
    14

Average Rate Change Polynomials - Medium - Answer Key

11. $f(x) = 4x^2 - 4x + 8, \quad -2 \le x \le 2$

    -4

12. $f(x) = 4x^2 + 6x + 2, \quad 3 \le x \le 7$

    46

13. $f(x) = 4x^2 - 3x - 8, \quad 2 \le x \le 3$

    17

14. $f(x) = -3x^2 - 8x + 8, \quad -1 \le x \le 2$

    -11

15. $f(x) = -3x^2 - 3x + 5, \quad -3 \le x \le 1$

    3

16. $f(x) = 4x^2 + 5x - 5, \quad 2 \le x \le 3$

    25

17. $f(x) = -x^2 - x, \quad 1 \le x \le 4$

    -6

18. $f(x) = 2x^2 - 6x - 7, \quad -1 \le x \le 1$

    -6

19. $f(x) = -4x^2 + 2x - 2, \quad 1 \le x \le 2$

    -10

20. $f(x) = -4x^2 + 5x + 6, \quad -3 \le x \le 0$

    17