**Unit 6 Homework**

**A:** 6.1.1(1-2) HW

Find the length of and the coordinates of the midpoint of .

1) 2)

**B:** 6.1.1(3) HW

Classify each polynomial function as linear, quadratic, cubic, quartic, or quantic. Also, give its leading term, leading coefficient, and degree.

1) 2)

3) 4)

**C:** 6.1.1(4) HW

Graph each equation. Label the origin and the x- and y-intercepts as L, M, and N, respectively. Find the area of .

1) 2)

**D:** 6.1.2 HW

Use the given values to find an equation of the form .

1) 2)

3) 4)

**E:** Method of Undetermined Coefficients HW

Find the slope of the line joining the points whose coordinates are given.

1) (4, 2), (9, 5) 2) (0, 4), (12, 0) 3) (-4, -2), (2, -6)

4) (-2, 6), (2, -2) 5) (8, 5), (-7, 5) 6) (-3, 8), (-3, -2)

**F:** 6.1.3(1-2) HW

Find the slope and y-intercept of the line whose equation is given.

1) 2) 3)

4) 5) 6)

**G:** 6.1.3(3) HW

Solve by using the quadratic formula. Give your answers in simplest radical form. Give both real and imaginary roots.

1) 2)

**H:** 6.1.3(4) HW

1) The leading coefficient of a cubic polynomial P is 2, and the coefficient of the linear term is -5. If P(0) = 7 and P(2) = 21, find P(3).

**I:** 6.1.3(5) HW

Sketch each parabola. Label the vertex, axis of symmetry, and the x- and y-intercepts.

1) 2) 3)

4) 5) 6)

**J:** 6.2.2(1-3) HW

Find an equation of the quadratic function described.

1) Its graph is a parabola with x-intercepts 2 and -1, and y-intercept 6.

2) The function f has zeros 5 and 1 and f(0) = 1.

3) Its graph is a parabola with vertex (4, 8) and passing through the origin.

**K:** 6.2.2(4) HW

Find an equation of the quadratic function described.

1) The minimum value of h is h(3) = -5, and h(1) = 2.

2) The maximum value of g is g(-1) = 6, and g(-3) = 4.

**L:** 6.2.2(5) HW

Find the remainder when is divided by:

1) 2) 3) 4)

Find the remainder when is divided by:

1) 2) 3) 4)

**M:** 6.2.2(6) HW

Find the quotient and remainder when dividing the following:

1) by 2) by

3) by 4) by

**N:** 6.2.2(7) HW

Given a polynomial equation and one or more roots, find the remaining roots.

1) ; root: 2) ; root:

**O:** 6.2.3(5) HW

1) Which of the following are factors of

a. b. c.

2) Which of the following are factors of

a. b. c.

**P:** 6.2.3(6-7) HW

Solve by using the quadratic formula. Give answers in simplest radical form.

1. 2) 3) 4)

**Q:** 6.2.3(8) HW

Simplify.

1. 2) 3)
2. 5) 6)

**R:** Complex Number TWIZ HW

Simplify.

1. 2) 3)
2. 5) 6)

**S:** 6.3.2(2) HW

Given the polynomial and roots provided, find the remaining roots.

1. ; roots:
2. ; roots:

**T:** 6.3.2(3-4) HW

For each of the following, give the x-intercepts and the equation for vertical or horizontal asymptotes (if any).

1. 2)

**U:** 6.3.2(5-6) HW

For each of the following, give the x-intercepts and the equation for vertical or horizontal asymptotes (if any).

1. 2)

**V:** Unit 6 Review HW

Sketch the graph of the following function. Show vertical/horizontal asymptotes and x-intercepts.