**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Adv. Alg. Fall BM 2 Review**

**Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Add or Subtract. Write the polynomial in standard form. Identify the leading coefficient, degree, and number of terms. Name the polynomial**

Standard Form: Standard Form:

Leading Coefficient: Leading Coefficient:

Degree: Degree:

Number of Terms: Number of Terms:

Name: Name:

**Identify the degree of the following monomials:**

3) 4) 9 5)

**Expand the expressions.**

**Divide the following polynomials by the method of your choice.**

**Simplify the following radicals.**

11) 12)

**Simplify the following expressions.**

14)

15) 16)

**Simplify using powers of i.**

17) 18)

**For questions 21-24, write the EQUATION of a polynomial using the given roots.**

**Determine the End Behavior of the following functions.**

23)

**Solve the following by FACTORING.**

28

**Solve the following by THE QUADRATIC FORMULA.**

33)

**Solve the following variation problems.**

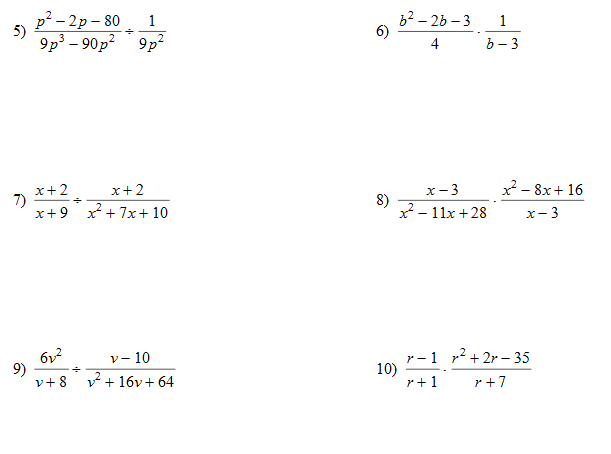
34) The cost of packing boxes, *c*, varies inversely with the number of boxes, *b*, purchased. If *c=$0.85* when *b=50*, determine the cost of packing 8 boxes.

1. Hooke’s law states that the distance d that a spring is stretched by a hanging object varies directly as the mass m of the object. If the distance is 30 cm when the mass is 6 kg, what is the distance when the mass is 8 kg?
2. The cost c of materials for a deck varies jointly with the width w and the length l. If c = $470.40 when w = 12 and l = 16 , find the cost when w = 10 and l = 25.
3. The time required to process a shipment of goods at Wal-Mart varies directly with the number of items in the shipment and inversely with the number of workers assigned. If 15,000 items can be processed by 8 workers in 10 hours, then how long would it take 12 workers to process 20,000 items?

**Simplify the following rational expressions and list the undefined values of each.**



**Multiply or Divide the Rational Expressions.**



**Choose the graph that represents the function. Determine the end behavior, y-intercept, and local max/min for each function.**

