

## Concept: Dividing Expressions

Name: \_\_\_\_\_

### COMPUTER COMPONENT

**Instructions:** Select the computer program *Understanding Algebra* (Neufeld)  
Follow the instructions to the Main Menu.  
Select *Dividing Expressions* from the Main Menu.



Work through all sections of the following topics **in order**:

- *Dividing a Monomial by a Monomial*
- *Dividing a Polynomial by a Monomial*
- *Dividing a Polynomial by a Binomial*
- *Combination Questions*
- *Practice Questions*



As you work through the computer exercises, make your own notes in your notebook.

When you reach the end of the section *Practice Questions* on the computer, move on to the **OFF COMPUTER EXERCISES** below.

### OFF COMPUTER EXERCISES

1. Find the answer to  $\frac{32}{4}$  by re-writing 32 as  $16 + 6 + 10$  and then dividing each term.

2. Simplify.

(a)  $\frac{12a^3b^2}{48a^2b}$

(b)  $\frac{-12cd}{64c^2d}$

(c)  $\frac{-55m^5n^4}{11m^6n^2}$

(d)  $-\frac{14p^4q^3r^5}{16p^3r^5}$

(e)  $\frac{2w^8x^3yz^5}{4w^5x^8yz^9}$

3. Rewrite your answers in 2(b), 2(c) and 2(e) with only positive exponents.

4. Answer true or false.

- (a) When dividing a polynomial by a monomial, we can separate the fraction into a number of separate fractions and add the result.      true      false
- (b) Another method used to divide a Polynomial by a monomial is to common factor the denominator, then divide through by like terms.      true      false
- (c) Long division can be used when dividing a polynomial by a binomial.      true      false

5. Simplify.

(a)  $\frac{3x - 6xy + 9x}{3x}$

(b)  $\frac{5a^2 - 55a + 40a^3}{5a}$

(c)  $\frac{-8m^2n + 6mn - 10m}{2m}$

(d)  $\frac{-35pq^4 + 7p^2q^2 - 21p^3q^2}{-7pq^2}$

6. Simplify. Remember that you will have to use either factoring **OR** long division in order to answer these questions. You may need an extra piece of paper for your work.

(a)  $\frac{x^2 - 64}{x - 8}$

(b)  $\frac{x^2 - 5x + 6}{(x - 2)}$

6. (continued)

(c) 
$$\frac{4x^2 - 5x + 8}{x - 2}$$

(d) 
$$\frac{x(x^2 + x - 12)}{x^2 + 4x}$$

(e) 
$$\frac{6x^2 + x - 11}{x + 4}$$

(f) 
$$\frac{10x^2 - 5x - 1}{(x + 5)}$$

7. Simplify.

These questions will cover all of the skills that you learned in this section.

(a) 
$$\frac{-24k^6}{28k^6}$$

(b) 
$$\frac{1}{4x} + \frac{5}{8x}$$

(c) 
$$\frac{(x^2 - 64)(3x)}{(x^2 - 8x)}$$

(d) 
$$\frac{4x^2 - 10x + 11}{x - 6}$$

(e) 
$$\frac{8x}{3x - 9} \times \frac{12x - 9}{16x}$$

(f) 
$$\frac{6x}{x^2 - 25} + \frac{2}{x + 5}$$