

## Powers and Polynomials Test Review

### Section 2.2

When multiplying two powers with the same base, ADD the exponents.

When dividing two powers with the same base, SUBTRACT the exponents.

### Section 2.3

When a power is raised to another exponent MULTIPLY exponents.

### Section 2.4

You can only +/- the coefficients of LIKE TERMS.

**Complete:** p. 131 - 132 #4ac, 7, 11, 12, 14, 17.

p. 118 #9

p. 126 #9b

Review the quiz. Make sure you can correctly answer every question on the quiz.

**Example One**

Simplify the following expression.

$$\frac{c^4 v^3 (c^3 v^7)^5}{c v^2} \quad \text{BEDMAS}$$

$$= \frac{c^4 v^3 c^{15} v^{35}}{c v^2}$$

$$= \frac{c^{19} v^{38}}{c v^2}$$

$$= c^{18} v^{36}$$

**Example Two**Simplify the expression and then evaluate when  $b = -1$ .

$$\frac{b^4 (b^3)^5}{b}$$

$$= \frac{b^4 b^{15}}{b}$$

$$= \frac{b^{19}}{b}$$

$$= b^{18}$$

**Example Three**

Expand the brackets and simplify.

$$\frac{3}{5}\left(2\frac{1}{3}a - 2\frac{1}{2}\right) + \frac{1}{2}\left(2\frac{1}{5}a + 3\frac{2}{3}\right)$$

1. Change any mixed number to improper.

$$\frac{3}{5}\left(\frac{7}{3}a - \frac{5}{2}\right) + \frac{1}{2}\left(\frac{11}{5}a + \frac{11}{3}\right)$$

2. Expand each bracket.

$$\frac{21 \times 2}{15 \times 2}a - \frac{15 \times 3}{10 \times 3} + \frac{11 \times 3}{10 \times 3}a + \frac{11 \times 5}{6 \times 5}$$

3. Collect like terms. Find common denominator first.

$$\frac{42}{30}a - \frac{45}{30} + \frac{33}{30}a + \frac{55}{30}$$

$$= \frac{75}{30}a + \frac{10}{30}$$

4. Reduce + report as mixed number.

$$= 2\frac{15 \div 15}{30 \div 15}a + \frac{10 \div 10}{30 \div 10}$$

$$= 2\frac{1}{2}a + \frac{1}{3}$$