

MA90 Exercises for section 7.2 Multiplication & Division of Rational Expressions**Multiple Choice**

Identify the choice that best completes the statement or answers the question.

- _____ 1. Perform the indicated operation. Reduce your answer to lowest terms.

$$\frac{2x^5}{2x-4} \cdot \frac{x-2}{x^2}$$

- a. $\frac{1}{2x-4}$
- b. $x-2$
- c. $2x^3$
- d. x^3
- e. $2x-4$

- _____ 2. Perform the indicated operation. Reduce your answer to lowest terms.

$$\frac{2x^6}{2x-6} \cdot \frac{x-3}{x^3}$$

- a. $x-3$
- b. $2x^3$
- c. x^3
- d. $\frac{1}{2x-6}$
- e. $2x-6$

- _____ 3. Perform the indicated operation. Reduce your answer to lowest terms.

$$\frac{2x-6}{x^2-4} \cdot \frac{x^2+5x+6}{x-3}$$

- a. $\frac{x+3}{2(x-2)}$
- b. $\frac{x+2}{x}$
- c. $\frac{2(x+2)}{x-3}$
- d. $\frac{2(x+3)}{x-2}$
- e. $\frac{2(x-3)}{3}$

- _____ 4. Perform the indicated operation. Reduce your answer to lowest terms.

$$\frac{x+2}{x^2-1} \div \frac{4x+8}{x+1}$$

- a. 4
- b. $\frac{4}{x-1}$
- c. $\frac{1}{4(x-1)}$
- d. $\frac{1}{4(x-2)}$
- e. $\frac{1}{4x+1}$

- _____ 5. Perform the indicated operation. Reduce your answer to lowest terms.

$$\frac{y^2-4y+3}{2y+6} \div \frac{2y-2}{y+3}$$

- a. $\frac{y-1}{3}$
- b. $\frac{2}{y+3}$
- c. $y-3$
- d. $\frac{4}{y-3}$
- e. $\frac{y-3}{4}$

Short Answer

1. The following problem involves some factoring by grouping. Remember, before you can divide out factors common to the numerator and denominator of a product, you must factor completely.

$$\frac{x^2-9}{x^2-3x} \cdot \frac{5x+20}{xy+4x+3y+12}$$

Name: _____

ID: A

2. The following problem involves some factoring by grouping. Remember, before you can divide out factors common to the numerator and denominator of a product, you must factor completely.

$$\frac{x^3 - 4x^2 + x - 4}{x^4 - 1} \cdot \frac{5x^2 + 3x - 2}{5x^2 - 22x + 8}$$

3. Simplify the expression. Work inside parentheses first, and then divide out common factors.

$$\left(1 - \frac{1}{2}\right)\left(1 - \frac{1}{3}\right)\left(1 - \frac{1}{4}\right) \cdots \left(1 - \frac{1}{98}\right)\left(1 - \frac{1}{99}\right)$$

**MA90 Exercises for section 7.2 Multiplication & Division of Rational Expressions
Answer Section****MULTIPLE CHOICE**

- | | |
|-----------|--------|
| 1. ANS: D | PTS: 1 |
| 2. ANS: C | PTS: 1 |
| 3. ANS: D | PTS: 1 |
| 4. ANS: C | PTS: 1 |
| 5. ANS: E | PTS: 1 |

SHORT ANSWER

1. ANS:
$$\frac{5(x+4)}{x(y+4)}$$

PTS: 1

2. ANS:
$$\frac{1}{x-1}$$

PTS: 1

3. ANS:
$$\frac{1}{99}$$

PTS: 1