Practice 7.1 & 7.2

Name(s)_____

Find the domain of the rational expression.

1) $f(x) = \frac{3x - 4}{8}$

A) $\{x|x \text{ is a real number and } x \neq 0\}$

B) $\{x|x \text{ is a real number and } x \neq 8\}$

C) $\{x|x \text{ is a real number}\}$

D) $\left\{x|x \text{ is a real number and } x \neq \frac{4}{3}\right\}$

2) $f(x) = \frac{x}{3x - 5}$

A) $\left\{x|x \text{ is a real number and } x \neq -\frac{5}{3}\right\}$

B) $\left\{x|x \text{ is a real number and } x \neq -\frac{3}{5}, x \neq 0\right\}$

C) $\left\{x|x \text{ is a real number and } x \neq \frac{5}{3}\right\}$

D) $\left\{x|x \text{ is a real number and } x \neq \frac{3}{5}, x \neq 0\right\}$

List four equivalent forms for the rational expression.

3) $-\frac{x - 7}{x + 10}$

A) $\frac{-(x - 7)}{x - 10}, \frac{-x + 7}{x + 10}, \frac{x - 7}{-(x - 10)}, \frac{x - 7}{-x - 10}$

B) $\frac{-(x - 7)}{x + 10}, \frac{-x + 7}{x + 10}, \frac{x - 7}{-(x + 10)}, \frac{x - 7}{-x - 10}$

C) $\frac{-(x + 7)}{x + 10}, \frac{-x + 7}{x + 10}, \frac{x + 7}{-(x + 10)}, \frac{x - 7}{-x - 10}$

D) $\frac{-(x - 7)}{x + 10}, \frac{-x + 7}{x - 10}, \frac{x - 7}{-(x - 10)}, \frac{x - 7}{-x - 10}$

Simplify the expression.

4) $\frac{(y + 8)(y - 2)}{(y - 2)(y + 3)}$

5) $\dfrac{a^2 - ab + 8a - 8b}{a + 8}$

Find the product and simplify.

6) $\dfrac{x^2 + 12x + 27}{x^2 + 18x + 81} \cdot \dfrac{x^2 + 17x + 72}{x^2 + 11x + 24}$

Find the quotient and simplify.

7) $\dfrac{m^2 - n^2}{m - n} \div \dfrac{m}{m^2 + mn}$

1) C

2) C

3) B

4) $\frac{y+8}{y+3}$

5) $a-b$

6) 1

7) $(m+n)^2$