Chapter 14 Practice Test

1

If $a \neq b$, which of the following is equivalent

to $\dfrac{a}{a-b} + \dfrac{b}{b-a}$?

A) 1

B) $\dfrac{a+b}{a-b}$

C) $\dfrac{a+b}{(a-b)^2}$

D) $\dfrac{a^2+b^2}{(a-b)^2}$

2

If $x > 0$ and $y > 0$, which of the following is

equivalent to $\dfrac{\dfrac{1}{x} - \dfrac{1}{y}}{\dfrac{1}{x^2} - \dfrac{1}{y^2}}$?

A) $\dfrac{xy}{x^2 - y^2}$

B) $\dfrac{2xy}{x^2 - y^2}$

C) $\dfrac{xy}{x+y}$

D) $\dfrac{xy}{x-y}$

3

$$\frac{(k+1)^2}{k} = 4k$$

What is the solution set of the equation above?

A) $\{-\dfrac{1}{3}\}$

B) $\{-1\}$

C) $\{-\dfrac{1}{3}, 1\}$

D) $\{\dfrac{1}{3}, -1\}$

4

$$\frac{3}{x} - \frac{x}{x+2} = \frac{2}{x+2}$$

What is the solution set of the equation above?

A) $\{2, -3\}$

B) $\{-2, 3\}$

C) $\{-2\}$

D) $\{3\}$

5

$$\frac{x}{x+1} + \frac{4}{x-4} = \frac{20}{x^2 - 3x - 4}$$

What is the solution set of the equation above?

A) $\{-4\}$

B) $\{4\}$

C) $\{-4, 4\}$

D) There are no solutions to the equation.

6

If $x \neq \pm 1$, which of the following is equivalent

to $\dfrac{1 + \dfrac{1}{x-1}}{1 - \dfrac{1}{x+1}}$?

A) $\dfrac{x-1}{x+1}$

B) $\dfrac{x+1}{x-1}$

C) $\dfrac{x^2-1}{x^2+1}$

D) $\dfrac{x^2+1}{x^2-1}$

7

Working alone, Gary can load an empty truck in 3 hours. Working alone, his brother can load the same truck in x hours. If Gary and his brother worked together for t hours to load the empty truck, which of the following equations can be used to find out how much work was done during t hours?

A) $\dfrac{3}{t} + xt$

B) $\dfrac{3}{t} + \dfrac{x}{t}$

C) $3t + xt$

D) $\dfrac{1}{3}t + \dfrac{1}{x}t$

8

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

What is one possible value of x, if function f is undefined?

9

If $x > 0$, what is the solution to the equation

$\dfrac{1}{2x} + \dfrac{3}{10x^2} = \dfrac{1}{5}$?

10

If $a \neq b$ and $\dfrac{ab}{a-b} \div \dfrac{ab^2}{b-a} = -\dfrac{1}{6}$, what is the value of b ?

11

If $\dfrac{a + \dfrac{1}{2}}{a - \dfrac{1}{2}} = 2$, what is the value of a ?