

7.6 Solving Equations with Rational Expressions

9.4 Variation

10.1 Radical expressions and Graphs

Solve the equation.

1) $\frac{x+3}{4} = \frac{x+4}{5}$

1) _____

A) {1}

B) $\left\{\frac{1}{20}\right\}$

C) $\left\{\frac{7}{9}\right\}$

D) $\left\{\frac{7}{20}\right\}$

2) $\frac{2x}{5} + x = 5$

2) _____

A) {2}

B) $\left\{\frac{25}{2}\right\}$

C) $\left\{\frac{10}{7}\right\}$

D) $\left\{\frac{25}{7}\right\}$

3) $\frac{2}{t} = \frac{t}{5t-12}$

3) _____

A) \emptyset

B) {0, 16}

C) {6, 4}

D) $\left\{0, \frac{12}{5}\right\}$

4) $\frac{4}{x-4} + \frac{1}{2x-8} = \frac{9}{2}$

4) _____

A) {1}

B) {5}

C) {45}

D) {-3}

5) $\frac{-1}{y+5} - \frac{8}{y-5} = \frac{10}{y^2-25}$

5) _____

A) {5}

B) $\{\sqrt{7}\}$

C) {45}

D) {-5}

6) $\frac{6}{m+1} - \frac{5}{m-1} = \frac{-12}{m^2-1}$

6) _____

A) {1}

B) {6}

C) \emptyset

D) {-1}

Solve the problem.

7) If m varies directly as p, and m = 40 when p = 8, find m when p is 7.

7) _____

A) 64

B) 25

C) 35

D) 49

8) If x varies inversely as v, and x = 28 when v = 7, find x when v = 49.

8) _____

A) 28

B) 7

C) 4

D) 49

9) If f varies jointly as q^2 and h, and f = 36 when q = 3 and h = 2, find f when q = 2 and h = 5.

9) _____

A) 10

B) 20

C) 40

D) 8

10) The weight of a liquid varies directly as its volume V. If the weight of the liquid in a cubical container 5 cm on a side is 250 g, find the weight of the liquid in a cubical container 4 cm on a side.

10) _____

A) 8 g

B) 128 g

C) 64 g

D) 44 g

11) The distance it takes to stop a car varies directly as the square of the speed of the car. If it takes 112 feet for a car traveling at 40 miles per hour to stop, what distance is required for a speed of 59 miles per hour?

- A) 208.86 ft B) 255.97 ft C) 243.67 ft D) 244.01 ft

11) _____

Find the root if it is a real number.

12) $-\sqrt{625}$

- A) Not a real number B) - 312
 C) 25 D) - 25

12) _____

13) $\sqrt{-625}$

- A) - 25 B) 25
 C) 312 D) Not a real number

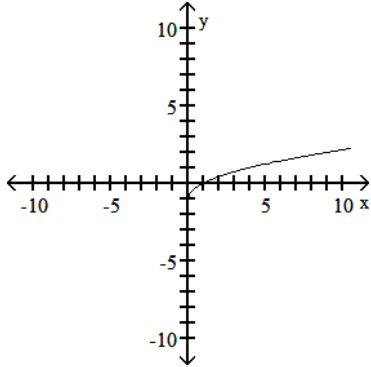
13) _____

Graph the function and give its domain and range.

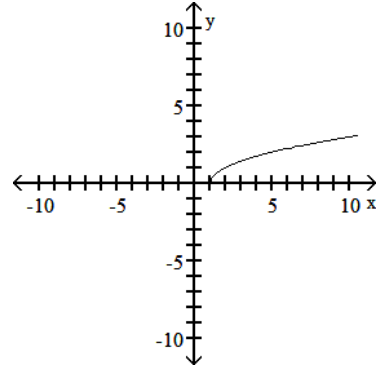
14) $f(x) = \sqrt{x - 1}$

14) _____

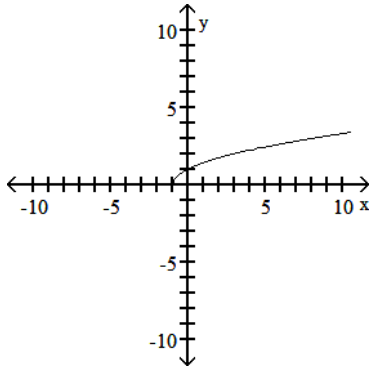
- A) $[0, \infty); [-1, \infty)$



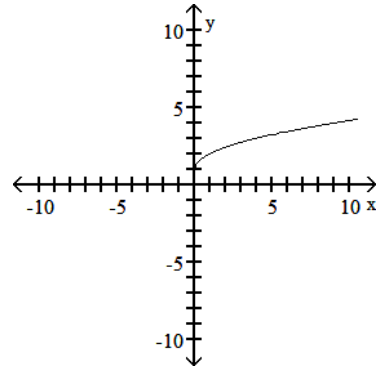
- B) $[1, \infty); [0, \infty)$



- C) $[-1, \infty); [0, \infty)$



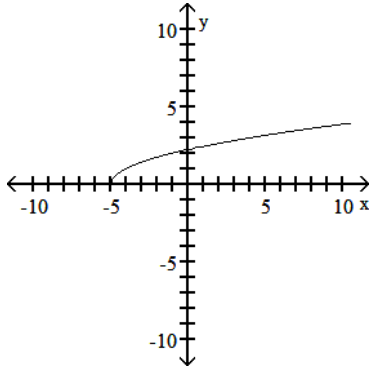
- D) $[0, \infty); [1, \infty)$



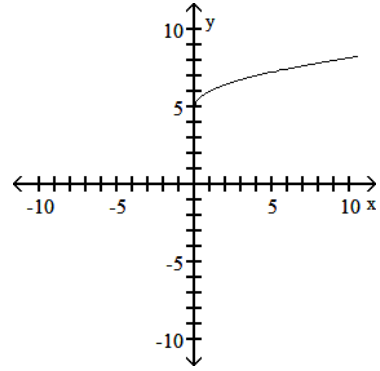
15) $f(x) = \sqrt{x} + 5$

15) _____

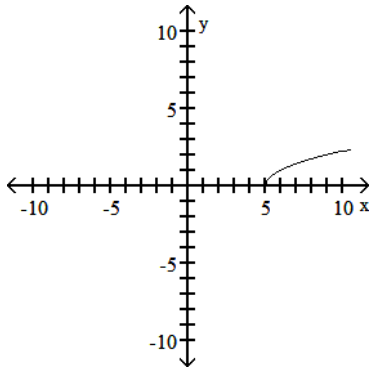
A) $[-5, \infty); [0, \infty)$



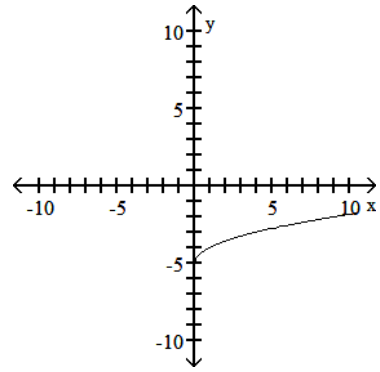
B) $[0, \infty); [5, \infty)$



C) $[5, \infty); [0, \infty)$



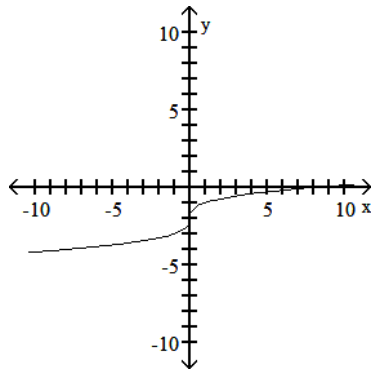
D) $[0, \infty); [-5, \infty)$



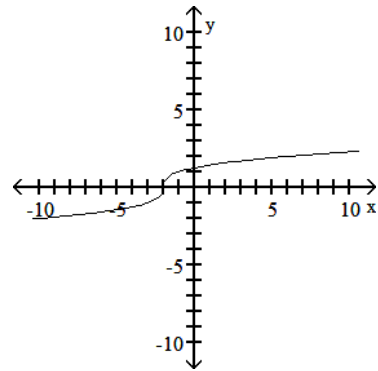
16) $f(x) = \sqrt[3]{x} - 2$

16) _____

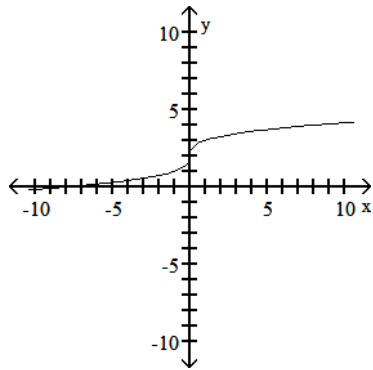
A) $(-\infty, \infty); [-\infty, \infty)$



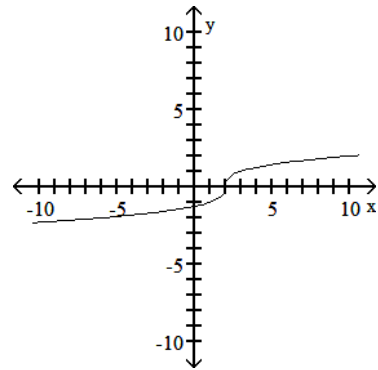
B) $(-\infty, \infty); (-2, \infty)$



C) $(-\infty, \infty); [2, \infty)$



D) $(0, \infty); (-\infty, \infty)$



Answer Key

Testname: PRACTICE15A

- 1) A
- 2) D
- 3) C
- 4) B
- 5) D
- 6) C
- 7) C
- 8) C
- 9) C
- 10) B
- 11) C
- 12) D
- 13) D
- 14) B
- 15) B
- 16) A