

**Find all numbers not in the domain of the function.**

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

- A) None B) 3 C) 0 D) -3

2)  $f(x) = \frac{x-3}{4}$  2) \_\_\_\_\_

- A) None B) 0 C) -3 D) 3

3)  $f(x) = \frac{x^2 - 49}{x^2 - 2x - 15}$  3) \_\_\_\_\_

- A) -3, 5 B) 7, -7 C) 3, -5 D) 0

4)  $f(x) = \frac{x^2 - 36}{x^2 - 2x - 15}$  4) \_\_\_\_\_

- A) 6, -6 B) -5, 3 C) 0 D) 5, -3

**Find all numbers that are not in the domain of the function. Then give the domain using set notation.**

5)  $f(x) = \frac{3}{x+5}$  5) \_\_\_\_\_

- A) -5, 5;
- $\{x \mid x \neq -5, 5\}$
- B) none;
- $(-\infty, \infty)$
- 
- C) -5;
- $\{x \mid x \neq -5\}$
- D) -3;
- $\{x \mid x \neq -3\}$

6)  $f(x) = \frac{x+1}{2x-4}$  6) \_\_\_\_\_

- A) none;
- $(-\infty, \infty)$
- B) -2;
- $\{x \mid x \neq -2\}$
- 
- C) 2, -1;
- $\{x \mid x \neq 2, -1\}$
- D) 2;
- $\{x \mid x \neq 2\}$

7)  $f(x) = \frac{16}{x^2 - 9x + 8}$  7) \_\_\_\_\_

- A) 0;
- $\{x \mid x \neq 0\}$
- B) -8, -1;
- $\{x \mid x \neq -8, -1\}$
- 
- C) 0, 1;
- $\{x \mid x \neq 0, 1\}$
- D) 1, 8;
- $\{x \mid x \neq 1, 8\}$

8)  $f(x) = \frac{x-3}{7}$  8) \_\_\_\_\_

- A) 7;
- $\{x \mid x \neq 7\}$
- B) none;
- $(-\infty, \infty)$
- C) 3;
- $\{x \mid x \neq 3\}$
- D) 0;
- $\{x \mid x \neq 0\}$

9)  $f(x) = \frac{x-1}{x^2+4}$  9) \_\_\_\_\_

- A) -4;
- $\{x \mid x \neq -4\}$
- B) -4, 4;
- $\{x \mid x \neq -4, 4\}$
- 
- C) 1;
- $\{x \mid x \neq 1\}$
- D) none;
- $(-\infty, \infty)$

**Tell whether or not the rational expressions are equivalent.**

10)  $\frac{x^2(x+1)}{x(x-1)}, \frac{x(x+1)}{x-1}$  10) \_\_\_\_\_

- A) No B) Yes

11)  $\frac{a^2 - b^2 + c^2}{b - c}, \frac{a^2 - b^2 + c^2}{c + b}$  11) \_\_\_\_\_  
 A) No B) Yes

Express the rational expression in lowest terms.

12)  $\frac{16m^6p^2}{2m^9p}$  12) \_\_\_\_\_  
 A)  $\frac{8p}{m^3}$  B)  $\frac{8m^3}{p}$  C)  $8mp$  D)  $8m^3p^2$

13)  $\frac{(y + 7)(y - 2)}{(y - 2)(y + 4)}$  13) \_\_\_\_\_  
 A)  $\frac{y + 2}{y + 2}$  B)  $\frac{2y - 2}{2y + 2}$  C)  $\frac{y + 7}{y + 4}$  D)  $\frac{y - 7}{y - 4}$

14)  $\frac{y^2 + 4y + 4}{y^2 + 9y + 14}$  14) \_\_\_\_\_  
 A)  $\frac{y + 2}{y + 7}$  B)  $-\frac{y^2 + 4y + 4}{y^2 + 9y + 14}$  C)  $\frac{4y + 2}{9y + 7}$  D)  $\frac{4y + 4}{9y + 14}$

15)  $\frac{y^2 + 4y - 45}{y^2 + 15y + 54}$  15) \_\_\_\_\_  
 A)  $\frac{4y + 45}{15y - 15}$  B)  $\frac{4y - 45}{15y + 54}$  C)  $-\frac{y^2 + 4y - 45}{y^2 + 15y + 54}$  D)  $\frac{y - 5}{y + 6}$

16)  $\frac{2x - 2y - bx + by}{2x - 2y + bx - by}$  16) \_\_\_\_\_  
 A) -1 B)  $\frac{2 - b}{2 + b}$   
 C) Already in lowest terms D) 1

Write the rational expression in lowest terms.

17)  $\frac{8 - m}{m - 8}$  17) \_\_\_\_\_  
 A) Already in lowest terms B) -m  
 C) -1 D) 1

18)  $\frac{8k - 40}{20 - 4k}$  18) \_\_\_\_\_  
 A) -1 B) 1 C) -2 D) 2

19)  $\frac{(y - 1)(y - 4)}{(4 - y)(1 + y)}$  19) \_\_\_\_\_  
 A)  $\frac{1 - y}{1 + y}$  B)  $\frac{-(1 + y)}{(1 + y)}$  C) -1 D)  $\frac{(-y - 1)}{(1 + y)}$

20)  $\frac{m^2 - 36m}{36 - m}$  20) \_\_\_\_\_  
 A)  $-m$  B)  $m$  C)  $-(m + 6)$  D)  $m + 6$

Perform the indicated operation and express in lowest terms.

21)  $\frac{6p - 6}{p} \cdot \frac{2p^2}{9p - 9}$  21) \_\_\_\_\_  
 A)  $\frac{4p}{3}$  B)  $\frac{12p^3 - 12p^2}{9p^2 - 9p}$   
 C)  $\frac{54p^2 + 108p + 54}{2p^3}$  D)  $\frac{3}{4p}$

22)  $\frac{4p - 4}{p} \div \frac{9p - 9}{4p^2}$  22) \_\_\_\_\_  
 A)  $\frac{36p^2 + 72p + 36}{4p^3}$  B)  $\frac{16p^3 - 16p^2}{9p^2 - 9p}$   
 C)  $\frac{16p}{9}$  D)  $\frac{9}{16p}$

23)  $\frac{z^2 + 12z + 27}{z^2 + 13z + 36} \div \frac{z^2 + 3z}{z^2 + 6z + 8}$  23) \_\_\_\_\_  
 A)  $z + 2$  B)  $\frac{z + 2}{z}$  C)  $\frac{z}{z^2 + 13z + 36}$  D)  $\frac{z + 2}{z^2 + 4z}$

24)  $\frac{(2x - 7)(x + 2)}{(x + 9)(x - 4)} \div \frac{(x + 2)(3x + 7)}{(x + 9)(x - 4)}$  24) \_\_\_\_\_  
 A)  $\frac{2x - 7}{3x + 7}$  B)  $-\frac{2x - 7}{3x + 7}$  C)  $\frac{x - 9}{x + 2}$  D)  $\frac{2}{3}$

25)  $\frac{3x^2(x - 4y) - 16x(x - 4y) + 21(x - 4y)}{3x^2(4y - x) - 8x(4y - x) - 3(4y - x)} \div \frac{6x - 1}{3x + 1}$  25) \_\_\_\_\_  
 A)  $-\frac{3x - 7}{6x - 1}$  B)  $1$  C)  $\frac{3x + 1}{x - 3}$  D)  $-\frac{3x + 7}{6x - 5}$

26)  $\frac{2}{10x} + \frac{5}{10x}$  26) \_\_\_\_\_  
 A)  $\frac{10x}{7}$  B)  $1$  C)  $\frac{7}{10x}$  D)  $\frac{7}{20x}$

27)  $\frac{10}{9x^2} - \frac{3}{9x^2}$  27) \_\_\_\_\_  
 A)  $\frac{7}{18x^4}$  B)  $\frac{7}{9x^2}$  C)  $\frac{9}{7x^2}$  D)  $7$

28)  $\frac{18}{q-6} - \frac{5}{q-6}$  28) \_\_\_\_\_  
 A)  $\frac{23}{q-6}$  B)  $\frac{13}{q-6}$  C)  $\frac{18(q-6)}{5(q-6)}$  D)  $\frac{13}{q}$

29)  $\frac{3x+8}{x^2-2x-8} - \frac{x+4}{x^2-2x-8}$  29) \_\_\_\_\_  
 A)  $\frac{2}{x-4}$  B)  $2x+4$  C)  $\frac{1}{x-2}$  D)  $\frac{2x+12}{x^2-2x-8}$

**Assume that the expressions given are denominators of fractions. Find the least common denominator.**

30)  $t, t-9$  30) \_\_\_\_\_  
 A)  $t-9$  B)  $t(t-9)$  C)  $-9$  D)  $9$

31)  $7a+21, a^2+3a$  31) \_\_\_\_\_  
 A)  $7a^2+3$  B)  $7a^2+21$  C)  $7a+3$  D)  $7a(a+3)$

32)  $r^2+4r+3, r^2+r$  32) \_\_\_\_\_  
 A)  $r(r+1)^2$  B)  $r(r+1)$  C)  $r(r+3)$  D)  $r(r+3)(r+1)$

**Add or subtract as indicated. Write the answer in lowest terms.**

33)  $\frac{2}{r} + \frac{6}{r-7}$  33) \_\_\_\_\_  
 A)  $\frac{8r-14}{r(r-7)}$  B)  $\frac{14r-8}{r(7-r)}$  C)  $\frac{8r-14}{r(7-r)}$  D)  $\frac{14r-8}{r(r-7)}$

34)  $\frac{3}{y^2-3y+2} + \frac{7}{y^2-1}$  34) \_\_\_\_\_  
 A)  $\frac{11y-10}{(y-1)(y+1)(y-2)}$  B)  $\frac{10y-11}{(y-1)(y+1)(y-2)}$   
 C)  $\frac{10y-11}{(y-1)(y-2)}$  D)  $\frac{42y-11}{(y-1)(y+1)(y-2)}$

35)  $\frac{3}{10x} + \frac{9}{14x^2}$  35) \_\_\_\_\_  
 A)  $\frac{3(7x+15)}{70x^2}$  B)  $\frac{12}{10x+14x^2}$  C)  $\frac{12}{140x^2}$  D)  $\frac{108}{70x^2}$

36)  $\frac{1}{6x^3y^2} - \frac{11}{2xy}$  36) \_\_\_\_\_  
 A)  $\frac{1-33x^2y}{6x^3y^2}$  B)  $\frac{6-33x^4}{6x^3y}$  C)  $\frac{8-33x^3y}{6x^4y^3}$  D)  $\frac{1-33xy}{6x^3y^2}$

37)  $\frac{3}{r} + \frac{7}{r-2}$  37) \_\_\_\_\_  
 A)  $\frac{6r-10}{r(r-2)}$  B)  $\frac{10r-6}{r(r-2)}$  C)  $\frac{6r-10}{r(2-r)}$  D)  $\frac{10r-6}{r(2-r)}$

38)  $\frac{4}{y^2-3y+2} + \frac{7}{y^2-1}$  38) \_\_\_\_\_  
 A)  $\frac{11y-10}{(y-1)(y-2)}$  B)  $\frac{56y-10}{(y-1)(y+1)(y-2)}$   
 C)  $\frac{10y-11}{(y-1)(y+1)(y-2)}$  D)  $\frac{11y-10}{(y-1)(y+1)(y-2)}$

39)  $\frac{2}{15x} + \frac{4}{21x^2}$  39) \_\_\_\_\_  
 A)  $\frac{2(7x+10)}{105x^2}$  B)  $\frac{6}{15x+21x^2}$  C)  $\frac{48}{105x^2}$  D)  $\frac{6}{315x^2}$

40)  $\frac{1}{6x^4y^2} - \frac{11}{2xy}$  40) \_\_\_\_\_  
 A)  $\frac{1-33x^3y}{6x^4y^2}$  B)  $\frac{1-33xy}{6x^4y^2}$  C)  $\frac{4-33x^4y}{6x^5y^3}$  D)  $\frac{2-33x^5}{6x^4y}$

41)  $\frac{2ab}{a^2-b^2} - \frac{b}{a-b} + 4$  41) \_\_\_\_\_  
 A)  $\frac{4a+5b}{a^2-b^2}$  B)  $\frac{(a-b)(5a+5b)}{a^2-b^2}$   
 C)  $\frac{4a+5b}{a+b}$  D)  $\frac{2ab-b+4}{a+b+1}$

42)  $\frac{5}{x-4} - \frac{7}{4-x}$  42) \_\_\_\_\_  
 A) -1 B)  $\frac{12}{x-4}$  C)  $\frac{14}{x-4}$  D)  $\frac{-2}{x+4}$

43)  $\frac{5}{x+2} + \frac{2}{x^2-2x+4} - \frac{60}{x^3+8}$  43) \_\_\_\_\_  
 A)  $\frac{7x-20}{x+2}$  B)  $-\frac{1}{x^2-4}$  C)  $\frac{5x-18}{x^2-2x+4}$  D)  $\frac{5x-18}{x^3-8}$

**Simplify the complex fraction.**

44)  $\frac{\frac{x}{7}}{\frac{2}{x+4}}$  44) \_\_\_\_\_  
 A)  $14x(x+4)$  B)  $\frac{x+4}{14x}$  C)  $\frac{x(x+4)}{14}$  D)  $\frac{2x}{7(x+4)}$

$$45) \frac{\frac{6}{y}}{\frac{8}{y-9}}$$

45) \_\_\_\_\_

A)  $\frac{3(y-9)}{4y}$

B)  $48y(y-9)$

C)  $\frac{4y}{3(y-9)}$

D)  $\frac{y-9}{48y}$

$$46) \frac{4 + \frac{2}{x}}{\frac{x}{3} + \frac{1}{6}}$$

46) \_\_\_\_\_

A) 12

B)  $\frac{x}{12}$

C)  $\frac{12}{x}$

D) 1

**Simplify the expression, using only positive exponents in your answer.**

$$47) \frac{x^{-6} + y^{-6}}{x^{-1} + y^{-1}}$$

47) \_\_\_\_\_

A)  $\frac{1}{x+y}$

B)  $\frac{1}{x^5 + y^5}$

C)  $\frac{y^6 + x^6}{x^5 + y^5}$

D)  $\frac{y^6 + x^6}{x^5y^6 + x^6y^5}$

$$48) \frac{x^{-4} + y^{-4}}{x^{-1} + y^{-1}}$$

48) \_\_\_\_\_

A)  $\frac{1}{x^3 + y^3}$

B)  $\frac{y^4 + x^4}{x^3y^4 + x^4y^3}$

C)  $\frac{y^4 + x^4}{x^3 + y^3}$

D)  $\frac{1}{x+y}$

**Without actually solving the equation, list all possible numbers that would have to be rejected if they appeared as potential solutions.**

$$49) \frac{5}{x-3} - \frac{14}{x+18} = 0$$

49) \_\_\_\_\_

A) -3, 18

B) 3, -18

C) 3, -18, 5, 14

D) -3, 18, -5, -14

$$50) \frac{3}{6x+13} - \frac{1}{x} = \frac{1}{13x-9}$$

50) \_\_\_\_\_

A)  $0, \frac{13}{6}, -\frac{9}{13}$

B)  $-\frac{13}{6}, \frac{9}{13}, -3$

C)  $-\frac{13}{6}, \frac{9}{13}$

D)  $0, -\frac{13}{6}, \frac{9}{13}$

$$51) \frac{2}{11x} - \frac{9}{19x} = \frac{x}{5}$$

51) \_\_\_\_\_

A) 11, 19, 5

B) 11, 19

C) 0

D) There are no numbers that would have to be rejected.

**Solve the equation.**

52)  $1 + \frac{1}{x} = \frac{72}{x^2}$  52) \_\_\_\_\_

A)  $\{-9, 8\}$

B)  $\{-8, 9\}$

C)  $\left\{-\frac{1}{9}, \frac{1}{8}\right\}$

D)  $\{8, 9\}$

53)  $\frac{2}{t} = \frac{t}{-2t + 6}$  53) \_\_\_\_\_

A)  $\{0, 4\}$

B)  $\{-6\}$

C)  $\{-6, 2\}$

D)  $\emptyset$

54)  $\frac{2y + 3}{y} = \frac{3}{2}$  54) \_\_\_\_\_

A)  $\{3\}$

B)  $\{6\}$

C)  $\{-6\}$

D)  $\{0\}$

55)  $\frac{3}{x - 2} + \frac{7}{x} = \frac{-14}{x^2 - 2x}$  55) \_\_\_\_\_

A)  $\{0, 2\}$

B)  $\emptyset$

C)  $\{-2\}$

D)  $\{0\}$

56)  $1 - \frac{3}{2x} = \frac{7}{4}$  56) \_\_\_\_\_

A)  $\{-2\}$

B)  $\{2\}$

C)  $\left\{\frac{1}{2}\right\}$

D)  $\left\{-\frac{1}{2}\right\}$

57)  $\frac{4x - 3}{2x + 1} = \frac{2x - 1}{x + 4}$  57) \_\_\_\_\_

A)  $\emptyset$

B)  $\{-1\}$

C)  $\left\{\frac{15}{13}\right\}$

D)  $\left\{\frac{11}{13}\right\}$

**Solve the problem. Round your answer, as needed.**

58) A formula for electric circuits is  $\frac{1}{a} = \frac{1}{b} + \frac{1}{c}$ . If  $a = 6$  and  $b = 18$ , find  $c$ . 58) \_\_\_\_\_

A) 0.111

B) 4

C) 9

D) 36

59) The distance of an object from a fulcrum is given by  $d = \frac{DW}{w}$ . Find  $D$  if  $d = 3$ ,  $w = 7$ , and  $W = 2$ . 59) \_\_\_\_\_

A) 1.167

B) 4.667

C) 0.214

D) 10.5

**Solve the formula for the specified variable.**

60)  $A = P(1 + nr)$  for  $r$  60) \_\_\_\_\_

A)  $r = \frac{A - P}{Pn}$

B)  $r = \frac{Pn}{A - P}$

C)  $r = \frac{P - A}{Pn}$

D)  $r = \frac{A}{n}$

61)  $S = 2\pi rh + 2\pi r^2$  for  $h$  61) \_\_\_\_\_

A)  $h = \frac{S}{2\pi r} - 1$

B)  $h = 2\pi(S - r)$

C)  $h = hS - r$

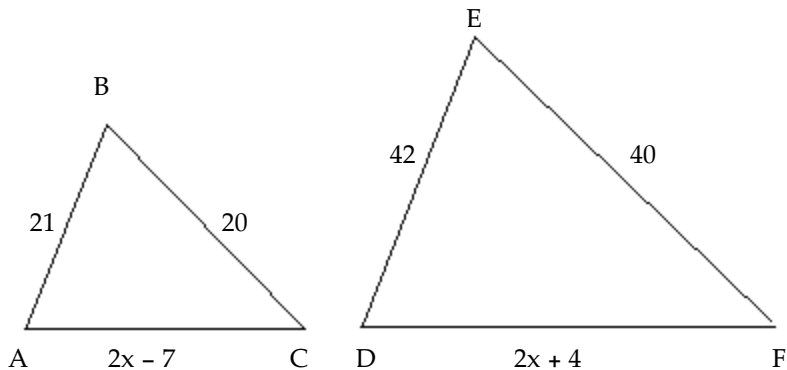
D)  $h = \frac{S - 2\pi r^2}{2\pi r}$

**Solve the problem. Round your answer, as needed.**

- 62) Dr. Wong can see 9 patients in 3 hours. At this rate, how long would it take her to see 54 patients? 62) \_\_\_\_\_  
 A) 162 hours                      B) 17 hours                      C) 27 hours                      D) 18 hours
- 63) Maria and Charlie can deliver 80 papers in 4 hours. How long would it take them to deliver 72 papers? 63) \_\_\_\_\_  
 A) 288 hours                      B) 3.6 hours                      C) 4.4 hours                      D) 4.5 hours
- 64) Doug and Inga can deliver 50 papers in 2 hours. How long would it take them to deliver 25 papers? 64) \_\_\_\_\_  
 A) 1.5 hours                      B) 1.0 hours                      C) 4 hours                      D) 50 hours
- 65) Sven can type 21 words per minute. How many words would he type in  $\frac{1}{2}$  hour (30 minutes)? 65) \_\_\_\_\_  
 A) 315 words                      B) 11 words                      C) 630 words                      D) 42 words
- 66) A machine can fill 4411 boxes of cereal in 0.5 hour. How many boxes of cereal can it fill per hour? 66) \_\_\_\_\_  
 A) 8822 boxes                      B) 2206 boxes                      C) 7352 boxes                      D) 4412 boxes
- 67) A machine can fill 4751 cartons of milk in 0.5 hour. How many cartons of milk can it fill per hour? 67) \_\_\_\_\_  
 A) 4752 cartons                      B) 7918 cartons                      C) 9502 cartons                      D) 2376 cartons
- 68) If a boat uses 24 gallons of gas to go 80 miles, how many miles can the boat travel on 120 gallons of gas? 68) \_\_\_\_\_  
 A) 400 miles                      B) 420 miles                      C) 800 miles                      D) 16 miles
- 69) On a map of the United States, the distance between Phoenix and Reno is 2.4 inches. The two cities are actually 768 miles apart. On this same map, what would be the distance between two cities that are 1408 miles apart? 69) \_\_\_\_\_  
 A) 4.4 inches                      B) 4.3 inches                      C) 4.5 inches                      D) 4.7 inches

**Suppose the triangles shown are similar, with angle A = angle D, angle B = angle E, and angle C = angle F. Answer the question.**

70) \_\_\_\_\_



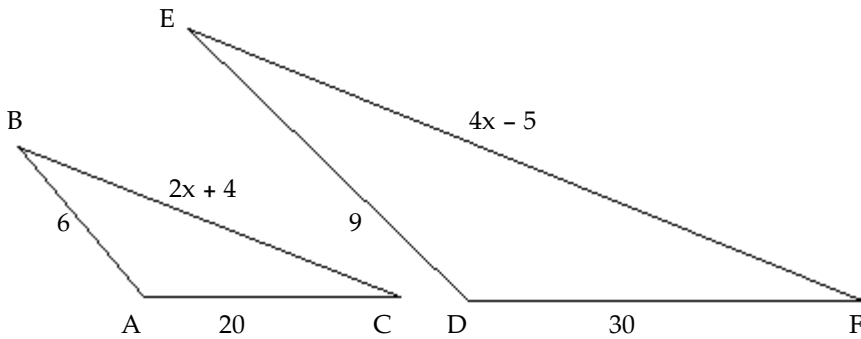
What is the value of  $x$ ?

- A) 9                      B) 20                      C) 21                      D) 41



71)

71) \_\_\_\_\_

What is the value of  $x$ ?

A) 11

B) 32

C) 46

D)  $\frac{9}{8}$ **Solve the problem.**

72) Martha can rake the leaves in her yard in 2 hours. Her younger brother can do the job in 6 hours. How long will it take them to do the job if they work together?

72) \_\_\_\_\_

A) 6 hr

B) 3 hr

C)  $\frac{2}{3}$  hrD)  $\frac{3}{2}$  hr

73) One maid can clean the house three times faster than another. Working together they can clean the entire house in 3 hours. How long would it take the faster maid cleaning alone?

73) \_\_\_\_\_

A) 4 hr

B) 3 hr

C)  $\frac{3}{4}$  hr

D) 5 hr

74) Frank can type a report in 2 hours and James takes 3 hours. How long will it take the two of them typing together?

74) \_\_\_\_\_

A)  $\frac{6}{5}$  hr

B) 6 hr

C)  $\frac{5}{6}$  hr

D) 3 hr

**Determine whether the variation between the indicated quantities is direct or inverse.**

75) The distance traveled by you in a car and the time taken to drive this distance

75) \_\_\_\_\_

A) Inverse

B) Direct

76) The weight of a baby in pounds and his age in months

76) \_\_\_\_\_

A) Direct

B) Inverse

77) The number of hours worked by an hourly worker and the amount of her paycheck

77) \_\_\_\_\_

A) Direct

B) Inverse

**Determine whether the equation represents direct, inverse, joint, or combined variation.**

78)  $y = \frac{3}{x}$

78) \_\_\_\_\_

A) Combined

B) Direct

C) Joint

D) Inverse

79)  $y = 7x^5z^2$

79) \_\_\_\_\_

A) Inverse

B) Combined

C) Direct

D) Joint

80)  $y = \frac{2x}{st}$  80) \_\_\_\_\_  
A) Combined B) Inverse C) Joint D) Direct

81)  $y = 3x^2$  81) \_\_\_\_\_  
A) Joint B) Direct C) Inverse D) Combined

**Solve the problem.**

82) If  $m$  varies directly as  $p$ , and  $m = 48$  when  $p = 8$ , find  $m$  when  $p$  is 4. 82) \_\_\_\_\_  
A) 16 B) 36 C) 24 D) 64

83) If  $x$  varies inversely as  $v$ , and  $x = 6$  when  $v = 8$ , find  $x$  when  $v = 16$ . 83) \_\_\_\_\_  
A) 3 B) 2 C) 24 D) 64

84) If  $f$  varies jointly as  $q^2$  and  $h$ , and  $f = 36$  when  $q = 2$  and  $h = 3$ , find  $f$  when  $q = 4$  and  $h = 5$ . 84) \_\_\_\_\_  
A) 15 B) 48 C) 240 D) 60

85) If  $f$  varies jointly as  $q^2$  and  $h$ , and  $f = 24$  when  $q = 2$  and  $h = 3$ , find  $h$  when  $f = 300$  and  $q = 5$ . 85) \_\_\_\_\_  
A) 6 B) 5 C) 3 D) 2

86) 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 375 g, find the weight of the liquid in a cubical container 4 cm on a side. 86) \_\_\_\_\_  
A) 44 g B) 12 g C) 64 g D) 192 g

87) 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 49 miles per hour? 87) \_\_\_\_\_  
A) 144.06 ft B) 180.37 ft C) 168.41 ft D) 168.07 ft

88) For a fixed amount of principal, the simple interest varies jointly with the rate and the time. If the simple interest is \$750 when the rate is 3% and the time is 5 years, find the simple interest when the rate is 5% and the time is 10 years. 88) \_\_\_\_\_  
A) \$2500 B) \$5000 C) \$2750 D) \$250

89) The volume  $V$  of a given mass of gas varies directly as the temperature  $T$  and inversely as the pressure  $P$ . If  $V = 230.0 \text{ in.}^3$  when  $T = 230^\circ$  and  $P = 15 \text{ lb/in.}^2$ , what is the volume when  $T = 160^\circ$  and  $P = 10 \text{ lb/in.}^2$ ? 89) \_\_\_\_\_  
A)  $230.0 \text{ in.}^3$  B)  $210.0 \text{ in.}^3$  C)  $260.0 \text{ in.}^3$  D)  $240.0 \text{ in.}^3$

## Answer Key

Testname: PPRATEXP

- |       |       |
|-------|-------|
| 1) B  | 52) A |
| 2) A  | 53) C |
| 3) A  | 54) C |
| 4) D  | 55) B |
| 5) C  | 56) A |
| 6) D  | 57) D |
| 7) D  | 58) C |
| 8) B  | 59) D |
| 9) D  | 60) A |
| 10) B | 61) D |
| 11) A | 62) D |
| 12) A | 63) B |
| 13) C | 64) B |
| 14) A | 65) C |
| 15) D | 66) A |
| 16) B | 67) C |
| 17) C | 68) A |
| 18) C | 69) A |
| 19) A | 70) A |
| 20) A | 71) A |
| 21) A | 72) D |
| 22) C | 73) A |
| 23) B | 74) A |
| 24) A | 75) B |
| 25) A | 76) A |
| 26) C | 77) A |
| 27) B | 78) D |
| 28) B | 79) D |
| 29) A | 80) A |
| 30) B | 81) B |
| 31) D | 82) C |
| 32) D | 83) A |
| 33) A | 84) C |
| 34) B | 85) A |
| 35) A | 86) D |
| 36) A | 87) D |
| 37) B | 88) A |
| 38) D | 89) D |
| 39) A |       |
| 40) A |       |
| 41) C |       |
| 42) B |       |
| 43) C |       |
| 44) C |       |
| 45) A |       |
| 46) C |       |
| 47) D |       |
| 48) B |       |
| 49) B |       |
| 50) D |       |
| 51) C |       |