Name_____

Direct and Inverse Variation

Date_____ Period_____

Determine whether the given equation represents a direct or inverse variation.

1) $xy = 15$

2) $y = \dfrac{9}{x}$

3) $y = \dfrac{13}{12x}$

4) $y = 13x$

5) $-5x + y = 0$

6) $y = 4x$

Find the constant of variation.

7) $y = 3x$

8) $xy = 7$

9) $\dfrac{y}{x} = 5$

10) $y = \dfrac{1}{9x}$

11) $y = \dfrac{3}{5}x$

12) $y = \dfrac{15}{x}$

Solve each problem involving direct or inverse variation.

13) If y varies directly as x, and $y = 6$ when $x = 15$, find y when $x = 2$.

14) If y varies inversely as x, and $y = 8$ when $x = 5$, find y when $x = 4$.

15) If y varies directly as x, and $y = 5$ when $x = 4$, find y when $x = 8$.

16) If y varies directly as x^2, and $y = 10$ when $x = 2$, find y when $x = 3$.

17) If y varies inversely as x, and $y = 9$ when $x = 10$, find y when $x = 5$.

18) If y varies inversely as x, and $y = 4$ when $x = 12$, find y when $x = 2$.

19) If y varies inversely as x, and $y = 3$ when $x = 21$, find y when $x = 9$.

20) If y varies inversely as x^2, and $y = \dfrac{11}{4}$ when $x = 4$, find y when $x = 2$.

21) If y varies directly as x, and $y = 10$ when $x = 20$, find y when $x = 3$.

22) If y varies directly as x, and $y = 4$ when $x = 6$, find y when $x = 5$.

Name_____

Direct and Inverse Variation

Date_____ Period_____

Determine whether the given equation represents a direct or inverse variation.

1) $xy = 15$

   Inverse

2) $y = \dfrac{9}{x}$

   Inverse

3) $y = \dfrac{13}{12x}$

   Inverse

4) $y = 13x$

   Direct

5) $-5x + y = 0$

   Direct

6) $y = 4x$

   Direct

Find the constant of variation.

7) $y = 3x$

   3

8) $xy = 7$

   7

9) $\dfrac{y}{x} = 5$

   5

10) $y = \dfrac{1}{9x}$

   $\dfrac{1}{9}$

11) $y = \dfrac{3}{5}x$

   $\dfrac{3}{5}$

12) $y = \dfrac{15}{x}$

   15

Solve each problem involving direct or inverse variation.

13) If y varies directly as x, and $y = 6$ when $x = 15$, find y when $x = 2$.

$$\frac{4}{5}$$

14) If y varies inversely as x, and $y = 8$ when $x = 5$, find y when $x = 4$.

10

15) If y varies directly as x, and $y = 5$ when $x = 4$, find y when $x = 8$.

10

16) If y varies directly as x^2, and $y = 10$ when $x = 2$, find y when $x = 3$.

$$\frac{45}{2}$$

17) If y varies inversely as x, and $y = 9$ when $x = 10$, find y when $x = 5$.

18

18) If y varies inversely as x, and $y = 4$ when $x = 12$, find y when $x = 2$.

24

19) If y varies inversely as x, and $y = 3$ when $x = 21$, find y when $x = 9$.

7

20) If y varies inversely as x^2, and $y = \dfrac{11}{4}$ when $x = 4$, find y when $x = 2$.

11

21) If y varies directly as x, and $y = 10$ when $x = 20$, find y when $x = 3$.

$$\frac{3}{2}$$

22) If y varies directly as x, and $y = 4$ when $x = 6$, find y when $x = 5$.

$$\frac{10}{3}$$