
Math B Week 4 Homework: Direct and Inverse Variation**Due Monday 6 March 2006****Mr. Quinn**

Tell whether the data in each table is a *direct variation*, or an *inverse variation*. Write an equation to model the data.

23.

| | | | |
|----------|----|----|----|
| x | 2 | 4 | 5 |
| y | 14 | 28 | 35 |

24.

| | | | |
|----------|----|---|----|
| x | 2 | 4 | 16 |
| y | 16 | 8 | 2 |

25.

| | | | |
|----------|----|----|---|
| x | 2 | 3 | 5 |
| y | 15 | 10 | 6 |

26.

| | | | |
|----------|----|---|-----|
| x | 1 | 2 | 4 |
| y | 10 | 5 | 2.5 |

27.

| | | | |
|----------|----|----|----|
| x | 4 | 8 | 10 |
| y | 10 | 20 | 25 |

28.

| | | | |
|----------|-----|----|-----|
| x | 7 | 10 | 15 |
| y | 3.5 | 5 | 7.5 |

29.

| | | | |
|----------|---|-----|------|
| x | 4 | 8 | 16 |
| y | 1 | 0.5 | 0.25 |

30.

| | | | |
|----------|-----|------|------|
| x | 2 | 7 | 11 |
| y | 4.6 | 16.1 | 25.3 |

31.

| | | | |
|----------|-----|------|-----|
| x | 30 | 20 | 10 |
| y | 0.5 | 0.75 | 1.5 |

Find the constant of variation k for each inverse variation.

- $m = 9$ when $n = 6$
- $x = 7$ when $y = 13$
- $x = 11$ when $y = 44$

Each pair of points is from an inverse variation. Find the missing value.

- $(4, 2)$ and $(1, a)$
- $(12, 2)$ and $(8, b)$
- $(6, 6)$ and $(c, 18)$
- $(5, 15)$ and $(d, 25)$
- $(\frac{3}{4}, 8)$ and $(\frac{1}{2}, w)$
- $(\frac{2}{3}, \frac{1}{2})$ and $(x, \frac{1}{3})$
- $(x, 10)$ and $(3, 5)$
- $(\frac{3}{7}, z)$ and $(\frac{2}{3}, \frac{3}{2})$
- $(2.4, 0.6)$ and $(x, 1.6)$
- $(8.6, 1.2)$ and $(n, 17.2)$
- $(m, 6)$ and $(50, 60)$
- $(4.8, p)$ and $(3.6, 6.4)$
- $(12, 27)$ and $(18, b)$
- $(2.7, 11.8)$ and $(x, 1.8)$
- $(\frac{3}{5}, y)$ and $(\frac{2}{25}, 5)$
- In an electric circuit, the current I varies inversely with the resistance R .
 - If $I = 10$ amps when $R = 12$ ohms, find R when $I = 2$ amps.
 - If $I = 3$ amps when $R = 100$ ohms, find I when $R = 20$ ohms.
 - If $I = 0.5$ amps when $R = 510$ ohms, find R when $I = 1.5$ amps.
- The time t to travel a fixed distance varies inversely with the rate r of travel.
 - If $t = 3$ h and $r = 25$ mi/h, find t when $r = 50$ mi/h.
 - If $t = 120$ s and $r = 40$ ft/s, find r when $t = 25$ s.