

Unit 12 – Review

Name: Key

Mr. Klassen

Determine the equation of any vertical asymptotes and the values of x for any holes in the graph. Then graph the function.

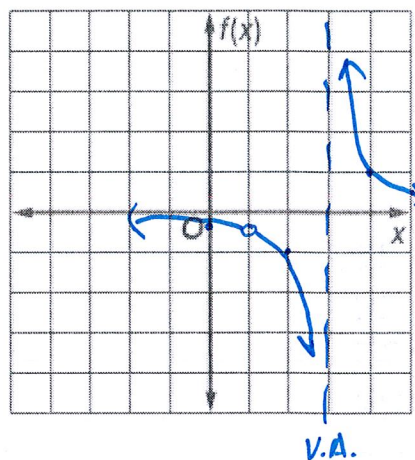
Vertical asymptote(s): $x=3$

Hole(s): $x=1$

1. $f(x) = \frac{x-1}{x^2-4x+3}$

$$\begin{array}{r} 3 \\ -1 \times \\ -4 \end{array}$$

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



State whether the each equation represents *direct*, *joint*, or *inverse* variation. Then name the constant of variation.

2. $p = \frac{4}{q}$

Inverse
4

3. $rw = 15$

Inverse
15

4. $t = 16rh$

Joint
16

Find the value of each.

5. If y varies directly as x and $y = 35$ when $x = 7$, find y when $x = 11$.

$$35 = k(7)$$

$$k = 5$$

$$y = 5(11)$$

$$y = 55$$

If y varies jointly as x and z and $y = 18$ when $x = 2$ and $z = 3$, find y when $x = 5$ and $z = 6$.

$$18 = k(2)(3)$$

$$k = 3$$

$$y = 3(5)(6)$$

$$y = 90$$

7. If y varies inversely as x and $y = 3$ when $x = 14$, find x when $y = 6$.

$$3 = \frac{k}{14}$$

$$k = 42$$

$$6 = \frac{42}{x}$$

$$x = 7$$

Find each value.

1. If y varies directly as x and $y = 9$ when $x = 6$, find y when $x = 8$.
2. If y varies directly as x and $y = 16$ when $x = 36$, find y when $x = 54$.
3. If y varies directly as x and $x = 15$ when $y = 5$, find x when $y = 9$.
4. If y varies directly as x and $x = 33$ when $y = 22$, find x when $y = 32$.
5. Suppose y varies jointly as x and z . Find y when $x = 5$ and $z = 3$, if $y = 18$ when $x = 3$ and $z = 2$.
6. Suppose y varies jointly as x and z . Find y when $x = 6$ and $z = 8$, if $y = 6$ when $x = 4$ and $z = 2$.
7. Suppose y varies jointly as x and z . Find y when $x = 4$ and $z = 11$, if $y = 60$ when $x = 3$ and $z = 5$.
8. Suppose y varies jointly as x and z . Find y when $x = 5$ and $z = 2$, if $y = 84$ when $x = 4$ and $z = 7$.

1. 12
2. 24
3. 27
4. 48
5. 45
6. 7.5
7. 176
8. 30

State whether each equation represents a *direct*, *joint*, or *inverse* variation. Then name the constant of variation.

1. $c = 12m$

Direct 12

4. $rw = 15$

Inverse 15

7. $y = 0.2s$

Direct .2

2. $p = \frac{4}{q}$

Inverse 4

5. $y = 2rst$

Joint 2

8. $vz = -25$

Inverse -25

3. $A = \frac{1}{2}bh$

Joint $\frac{1}{2}$

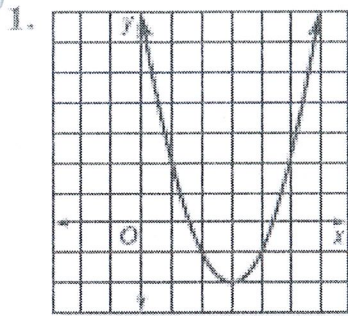
6. $f = 5280m$

Direct 5280

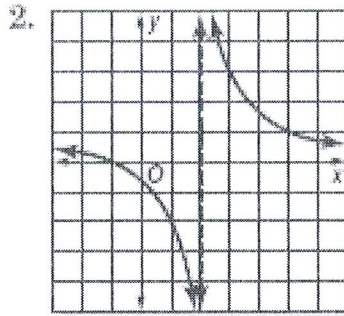
9. $t = 16rh$

Joint 16

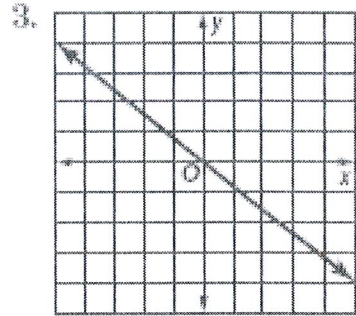
Identify the function represented by each graph.



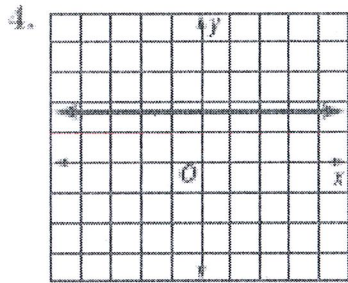
Quadratic



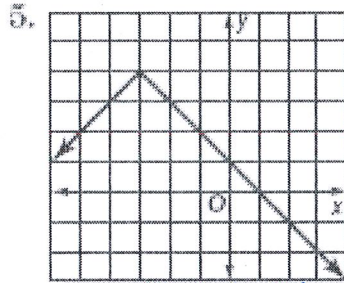
Rational



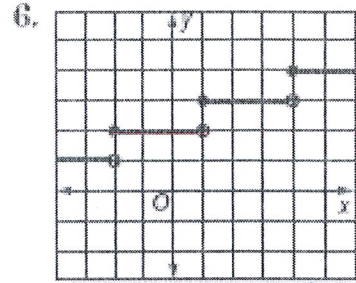
Linear



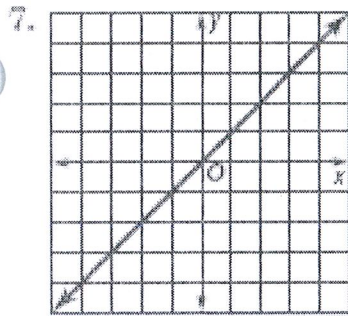
Constant



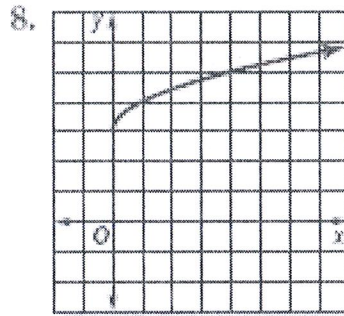
Absolute Value



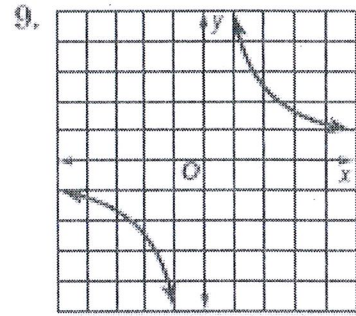
Greatest Integer



Identity



Square Root



Rational

