

$$\frac{4p^4}{p^1} = \frac{4p^7}{5p^2} = \frac{4p^5}{5}$$

$4p^{4-1} = 4p^3$   
 $4p^7$   
 $5p^{7-2} = 5p^5$   
 $7-2 = 5$   
 $7+2 = 9$   
 $4p^9$   
 $5$

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$$5) \frac{5n^2}{7n^4} = \frac{5n^{2-4}}{7} = \frac{5n^{-2}}{7} = \frac{5}{7n^2}$$

$$8) \frac{9a^3b^3 \cdot 5a^{-5}b^0}{2a^{-5} \cdot 45b^3} = \frac{45a^{-2}b^3}{90a^{-5}b^3} = \frac{45b^3}{2a^{-5}} = \frac{45b^3}{2} \cdot a^5$$

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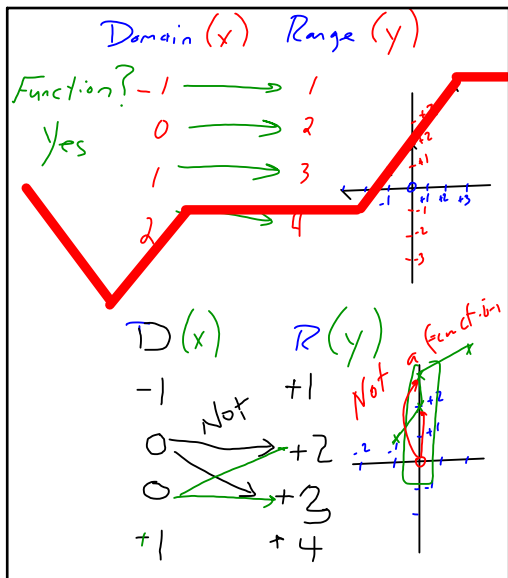
6.  $\frac{16x}{16x^2} = \frac{x^1}{x^2} = x^{1-2} = x^{-1} = \frac{1}{x}$

7.  $\frac{4x^2 \cdot -8x^2}{-6x^2y^{-4} \cdot 10x^{-5}y^5} = \frac{-32x^4}{-60x^{-3}y^1} = \frac{-8x^7}{-15y^1} = \frac{8x^7}{15y}$

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$$9) \frac{9v^{-5} \cdot 2u^{-5}v^2}{6u^4} = \frac{18v^{-3}u^{-5}}{6u^4} = \frac{3v^{-3}u^{-9}}{u^4} = \frac{3}{v^3u^9}$$

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Functions

$y = x+1$   $f(x) = x+1$   
 Range Domain using function notation

so if  $f(x) = x+1$   
 Same

other letters

Before  $C(x) = \text{cost}$   
 After  $R(x) = \text{revenue}$  fine  
 $f(x) = x+1$   $V(t) = \text{speed}$   
 $\vec{V}(t) = \text{velocity}$   
 $a(t) = \text{acceleration}$

Find y if  $x=3$  ( $y=x+1$ )  
 $y = 3+1 = 4$   
 $f(x) = x+1$   
 $f(3) = 3+1 = 4$

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given  $f(x) = 2x + 5$   
 $(-2, 9)$   $f(-2) = -2(-2) + 5$   
 $= +4 + 5$   
 $y = 9$   
 $f(x) = x^2 + 2x - 7$   
 find  $f(3) = 3^2 + 2(3) - 7$   
 $= 9 + 6 - 7$   
 $= 8$   
 $g(x) = x^2 + 5$   
 $g(\sqrt{2}) = (\sqrt{2})^2 + 5$   
 $2 + 5 = 7$   
 $f(x) = 2x^2 - 4x + 3$   
 $f(\sqrt{2}) = 2(\sqrt{2})^2 - 4\sqrt{2} + 3$   
 $2(2) - 4\sqrt{2} + 3$   
 $4 - 4\sqrt{2} + 3 = 7 - 4\sqrt{2}$

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Function Notation  
 Assignment  
 $f(x) = 3x - 2$   
 a)  $f(0)$       b)  $f(-5)$   
 $f(0) = 3(0) - 2 = 0 - 2 = -2$   
 $f(-5) = 3(-5) - 2 = -15 - 2 = -17$

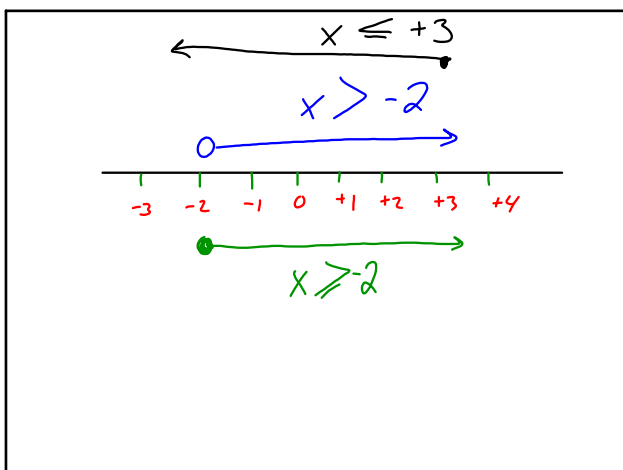
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$f(n) = 5n - 3 = 5(6) - 3 = 30 - 3 = 27$   
 5.  $f(n) = 27$   
 $27 = 5n - 3$   
 $30 = 5n$   
 $6 = n$   
 $46 = 9x + 1$   
 $45 = 9x$

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Functions?  
 a)  $(3, 6)$   $(5, -6)$   $(5, 4)$   $(4, 6)$   $(5, -6)$   $(6, 6)$   
 Yes No

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