

Monday Jan. 18, 2010

Quiz next Mon. - study sheet

Ch. 0

Real #s { Integers:  $-3, -1, 0, 1, 8, 111$   
Rational #:  $\frac{3}{5}$  or  $0.6$ ,  $\frac{8}{1}$ , repeating or terminating decimals  
Irrational #:  $\pi = 3.14159\dots$ ,  $e = 2.718\dots$   
 $\sqrt{3} = 1.732\dots$ , nonrepeating or nonterminating

0.2 p13 (2) a)  $0/6 = 0$  rational, integer, real

b)  $-1.2916$  rational, real

c)  $1.414$  rational

d)  $9/6$  rational, real

$\sqrt{7}$  irrational, real

$3.14159$  rational, real (no...)\*

~~8~~ Almost 8:  $3 < \pi$  or  $\pi > 3$

(8)  $\pi > 3.14$

(9)  $\frac{1}{3} + \frac{1}{2} = \frac{5}{6}$   
 $\frac{2}{6} + \frac{3}{6}$

Almost 14:  $2 + 3 \times 4 = 2 + 12 = 14$

$(2 + 3) \times 4 = 5 \times 4 = 20$

29 (14)  $(-3)^2 + 10 \cdot 2 = 9 + 20 = 29$

$-3^2 + 10 \cdot 2 = -9 + 20 = 11$

or  $-(3)^2$

(18)  $\frac{(-5)(-3) - (-2)(3)}{-9 + 2} = \frac{15 - -6}{-7} = \frac{21}{-7} = -3$

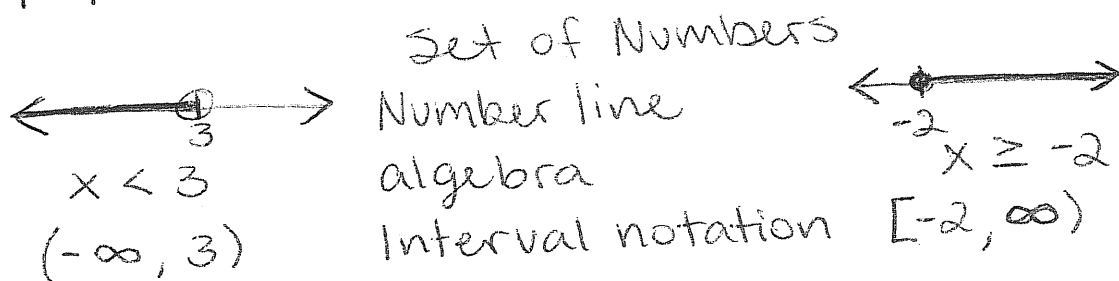
$$|-3| = \text{absolute value of } -3 = 3$$

$$|3| = 3$$

$$(20) \frac{|3-|4-1||}{-|5^2-3^2|} = \frac{|3-|4-1||}{-|5^2-3^2|} = \frac{|3-7|}{-|25-9|} =$$

$$\frac{|-4|}{-|16|} = \frac{4}{-16} = -\frac{1}{4}$$

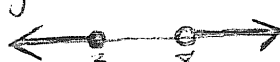
(27-41) ex.



ex.  $(-3, 7] = -3 < x \leq 7 = \left( \begin{array}{c} \oplus \\ -3 \end{array} \right) \begin{array}{c} \oplus \\ 7 \end{array} \right)$

~~all numbers greater than -3 to 7 including 7~~

$x$  is greater than -3 and less than or equal to 7

 =  ~~$x \leq 3$  or  $x > 8$~~

$(-\infty, 3] \cup (8, \infty)$

$\cap$  = and     $\cup$  = or

### 0.3

### Properties of Exponents p15

ex. 1)  $x^3 \cdot x^4 = x \cdot x \cdot x \cdot x \cdot x \cdot x = x^{3+4} = x^7$

$x^{13} \cdot x^{12} = x^{13+12} = x^{25}$

2)  $\frac{x^{10}}{x^3} = x^{10-3} = x^7$

5)  $(x^2)^5 = x^{10}$

$(x^2 \cdot y^3)^4 = x^8 y^{12}$

$(x^2)^4 \cdot (y^3)^4$

$$3^{-2} = \frac{1}{3^2} = \frac{1}{9}$$

$$\frac{x^7}{x^{10}} = x^{7-10} = x^{-3} = \frac{1}{x^3}$$

$\frac{\text{XXXXXXX}}{\text{XXXXXXXXXX}}$

$$a^0 = 1 \text{ (except for } a = 0 \text{)}$$

$$0^a = 0 \text{ (except for } a = 0 \text{)}$$

$$0^0 = \text{Deuteronomy 29:29 or undefined}$$

0.3 p18

$$(24) \quad y^{-5} \cdot y^{-2} = y^{-7} \text{ or } \frac{1}{y^7} \text{ for positive exponents}$$

$$(36) \quad (-32x^5)^{-3} = (-32)^{-3} \cdot (x^5)^{-3} = (-2^5)^{-3} \cdot x^{-15} = \frac{1}{x^{15}}$$

check Ex 3 p17

Homework 0.2 1, 7-23, 27-41 odd

0.3 1-45 odd

read & study 0.4