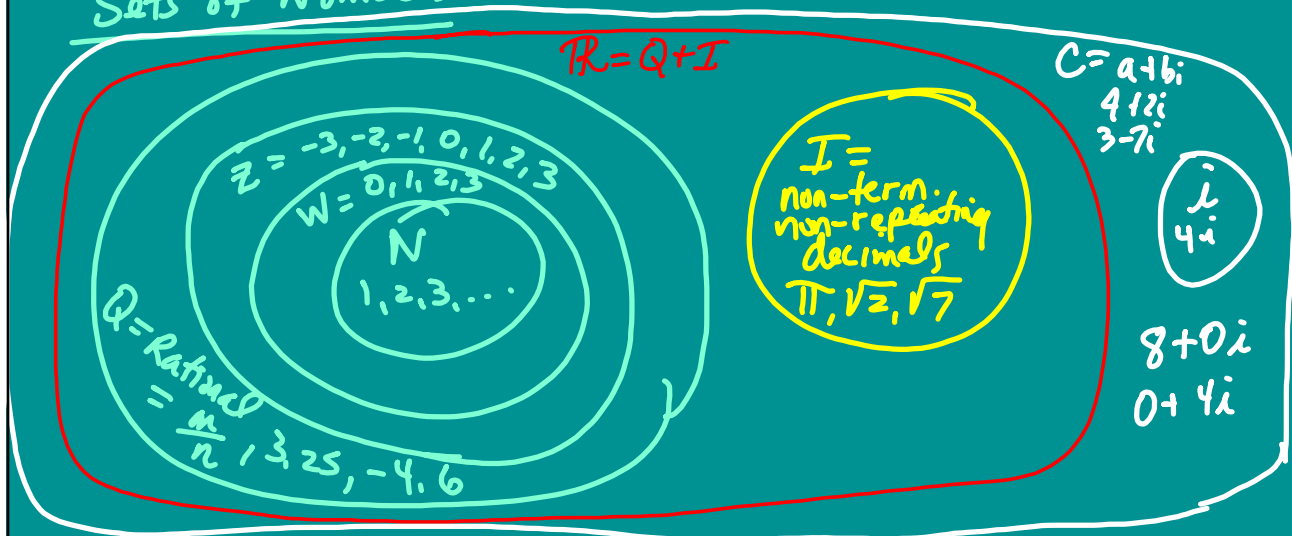


# SEMESTER REVIEW

## Sets of Numbers



## Significant Digits

3 40300

0.00086540 m

5  $\frac{\text{m}}{\text{min}}$  to  $\frac{\text{cm}}{\text{sec}}$

$$5 \frac{\text{m}}{\text{min}} \cdot \frac{100 \text{ cm}}{1 \text{ m}} \cdot \frac{1 \text{ min}}{60 \text{ sec}} = \frac{5 \cdot 100}{60} = \frac{50}{6} = \frac{25}{3} \frac{\text{cm}}{\text{sec}} = 8.\bar{3} \frac{\text{cm}}{\text{sec}}$$

$$\begin{aligned} 7/ \quad f(x) &= 4x^2 - 2x \\ f(3) &= 4(3)^2 - 2(3) \\ &= 36 - 6 \\ &= 30 \end{aligned}$$

$$\frac{8}{6^3} \left[ \frac{5x - 7}{2} = \frac{2}{3}(x+4) \right]$$

$$15x - 42 = 4(x+4)$$

$$15x - 42 = 4x + 16$$

$$\frac{11x}{11} = \frac{58}{11}$$

$$\begin{bmatrix} 2 & 3 \\ 5 & -4 \end{bmatrix} - 2 \begin{bmatrix} 7 & 6 \\ -1 & -3 \end{bmatrix}$$

$$\begin{bmatrix} 2 & 3 \\ 5 & -4 \end{bmatrix} + \begin{bmatrix} -14 & -12 \\ 2 & 6 \end{bmatrix}$$

$$= \begin{bmatrix} -12 & -9 \\ 7 & 2 \end{bmatrix}$$

+/- = must have same dimension,

$$\begin{bmatrix} 2 & -3 \\ 4 & 6 \\ 5 & -2 \end{bmatrix} \cdot \begin{bmatrix} -1 & 2 \\ 4 & 6 \end{bmatrix} = \begin{bmatrix} -2 + -12 & 4 + 18 \\ -4 + 24 & 8 + 36 \end{bmatrix}$$

$$= \begin{bmatrix} -14 & -14 \\ 20 & 44 \\ - & - \end{bmatrix}$$

$$7x - 9y = 56$$

$$m = -\frac{A}{B} = \frac{+7}{+9}$$

$$\begin{array}{c|c} 8 & 0 \\ \hline 0 & -14 \end{array}$$

$$x\text{-int } (8, 0)$$

$$y\text{-int } (0, -14)$$

Slope-int

$$y = mx + b$$

point-slope

$$y - y_1 = m(x - x_1)$$

Write the eq. of the line  $\perp$  to  
 $y = -3x + 1$  & through  $(-2, 4)$ .

$$m = -3$$

$$\downarrow m = \frac{1}{3}$$

$$y - y_1 = m(x - x_1)$$

$$y - 4 = \frac{1}{3}(x + 2)$$

$$\begin{array}{c} y - 4 = \frac{1}{3}x + \frac{2}{3} \\ +4 \qquad \qquad +4 \end{array}$$

$$y = \frac{1}{3}x + \frac{14}{3}$$

$$12) \quad \begin{array}{c} x \quad y \\ (1974, 2) \\ (1991, 4.55) \end{array}$$

Find slope

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

14(b)

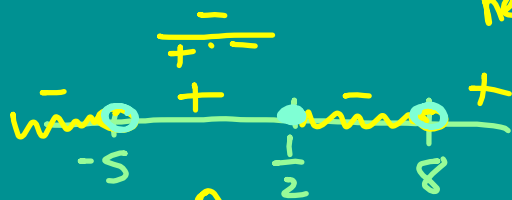
$$\frac{2x-1}{(x+5)(x-8)}$$

$$\leq 0$$

negative

Testing Points

$$\begin{aligned} 2x-1 &= 0 \\ 2x &= 1 \\ x &= \frac{1}{2} \end{aligned}$$



$$x < -5 \text{ or } \frac{1}{2} < x < 8$$

- 1) Find where each quantity = 0
- 2) Test intervals for +/-
- 3) Determine open/closed circles
- 4) Shade solutions  $\geq 0$  +  
 $\leq 0$  -
- 5) Write solution

Abs. Value

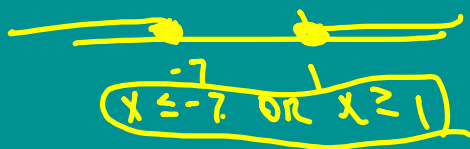
$$15 - 2|x+3| \leq 7$$

$$\frac{-2|x+3| \leq -8}{-2}$$

$$|x+3| \geq 4$$

$$x+3 \geq 4 \text{ OR } x+3 \leq -4$$

$$x \geq 1 \text{ OR } x \leq -7$$



- 1) Isolate the abs value
- 2) Write & solve 2 inequalities
- 3) Graph on # line to find final solution

GREATER OR  
 LESS THAN

16(c) 3-Var. Elim.

$$\left[ \begin{array}{ccc|c} \hline & & & \\ \hline & & & \\ \hline & & & \\ \hline \end{array} \right]$$