

Chapter 1

Systems of Equations (P.O.I.)  
 $y = mx + b$  ← determine equation  
 → given a graph, table, word

P.O.I.

① Substitution →  $3y = x$  ①  
 ② Elimination →  $3y = -2x + 9$  ②  
 ③ Graphing  
 $sub\ ① \rightarrow ②$   
 $3y = -2(3y) + 9$   
 $3y = -6y + 9$   
 $9y = 9$   
 $y = 1$   
 $sub\ ① \rightarrow ②$   
 $3y = x$   
 $3(1) = x$   
 $x = 3$   
 $\therefore P.O.I.$   
 is  $(3, 1)$   
 $(x, y)$

Elimination

$2x - 8 + y = 6$  ①  
 $3x - 2y + 6 = 13$  ②  
 $2x + y = 14$  ①  
 $3x - 2y = 7$  ②  
 $4x + 2y = 28$  ③  
 $3x - 2y = 7$  ②  
 $x = 35$   
 $x = 35$   
 $x = 5$   
 $\therefore P.O.I.$  is  $(5, 4)$

WORD PROBLEMS

→ total, current/wind, percent  
 Ramona has a total of \$5000 to invest. She puts part of it in an account paying 5% interest and the rest of it she has ~~invested~~ <sup>invested</sup> in ~~simple~~ <sup>simple</sup> interest, how much was invested at each rate.  
 Let  $x$  rep the amount invested at 5%  
 Let  $y$  rep " " " " 22%  
 $x + y = 5000$  (total)  
 $.05x + .22y = 349$  (\$)

Wind/Current p46-49

p46 →  
 Let  $x$  rep the rowing speed  
 Let  $c$  rep the speed of the current  
 $(x+c)(t) = 10$

Chapter 2 - 3

Geometric Properties

median  
 Bisector

$$d = \sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2}$$

vertex  
 right bisector  
 midpoint  
etc

$$y = mx + b$$

$$\text{Midpoint} = \left( \frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$$

Chapt 3 → shapes

Verify

Circle  $r^2 = x^2 + y^2$   
 $16 = x^2 + y^2$  Example