Algebra 1   6.4
Solve systems by elimination
Solve problems using elimination
solve
elimination
DRT charts
whiteboards
speed dating (if time)

1. $2x - y = 4$ $\xrightarrow{3}$ $\boxed{\begin{array}{l} 6x - 3y = 12 \\ 7x + 3y = 27 \end{array}}$ What is the plan?

$7x + 3y = 27$

$7 \cdot 3 + 3 \cdot 2 = 27$

$21 + 6 = 27$

$\overset{=}{\smile}$

$2 \cdot 3 - y = 4$

$6 - y = 4$

$-6 \qquad -6$

$\dfrac{-y = -2}{\dfrac{-y}{-1} = \dfrac{-2}{-1}}$
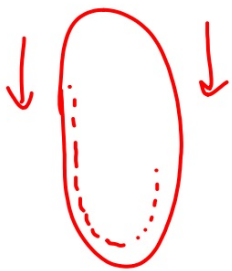
$13x = 39$

$\dfrac{13x}{13} \qquad \dfrac{39}{13}$

$x = 3$

$(3, 2)$

2. $2x + 7y = 1$
$\quad x + 5y = 2$

3 $4x + 2y = -14$
$5x + 3y = -17$

4. $9a - 2b = -8$
   $-7a + 3b = 12$

D = R * T

wind
current
upstream
downstream

wind against
down
up
with current
wind

C + B

C →
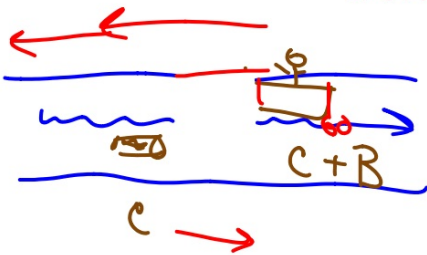
$$D = R \cdot T$$

		B + C	
		B - C	

Boat: $6 \frac{mi}{hr}$

(B, C)

5. CCSS SENSE-MAKING A kayaking group with a guide travels
16 miles downstream, stops for a meal, and then travels
16 miles upstream. The speed of the current remains constant
throughout the trip. Find the speed of the kayak in still water.

D

Leave	10:00 A.M.	⎤ 2
Stop for meal	12:00 noon	⎦
Return	1:00 P.M.	⎤ 4
Finish	5:00 P.M.	⎦

$$D = R \cdot T$$

	D	R	T
down	16	B+C	2
up	16	B-C	4

$16 = (B+C) \cdot 2$

$16 = (B-C) \cdot 4$

$16 = 2B + 2C$

$16 = 4B - 4C$

$16 = 2B + 2C \xrightarrow{2} 32 = 4B + 4C$

$16 = 4B - 4C \qquad\quad 16 = 4B - 4C$

$$\frac{48}{8} = \frac{8B}{8}$$

$(6, 2)$
$B \quad C$

$16 = 2 \cdot 6 + 2C$

$16 = 12 + 2C$

$-12 \quad -12 \qquad C: 2$

$4 = 2C$

$$D = R \cdot T$$

	D	R	T
with	450	P+w	2
against	450	P-w	3

P, w

WB 6.4 prac p. 80

1 - 13 odd

14, 16