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

1. $2x - y = 4$
$7x + 3y = 27$

$\xrightarrow{3}$ $6x - 3y = 12$
$7x + 3y = 27$

$13x = 39$

$\frac{13x}{13} = \frac{39}{13}$

$x = 3$

What is the plan?

☺ (3, 2)

$2 \cdot 3 - y = 4$

$6 - y = 4$

$-6 \quad -6$

$-y = -2$

$\frac{-y}{-1} = \frac{-2}{-1}$

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

$21 + 6 = 27$

2. $2x + 7y = 1$
$x + 5y = 2$ $\xrightarrow{\cdot -2}$ $-2x - 10y = -4$

$2x + 7y = 1$

$-3y = -3$

$\frac{-3y}{-3} = \frac{-3}{-3}$

$y = 1$

$2x + 7 \cdot 1 = 1$

$2x + 7 = 1$

$-7 \quad -7$

$2x = -6$

$x = -3$

$-3 + 5 \cdot 1 = 2$

$-3 + 5 = 2$

$2 = 2$ ☺

$(-3, 1)$

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

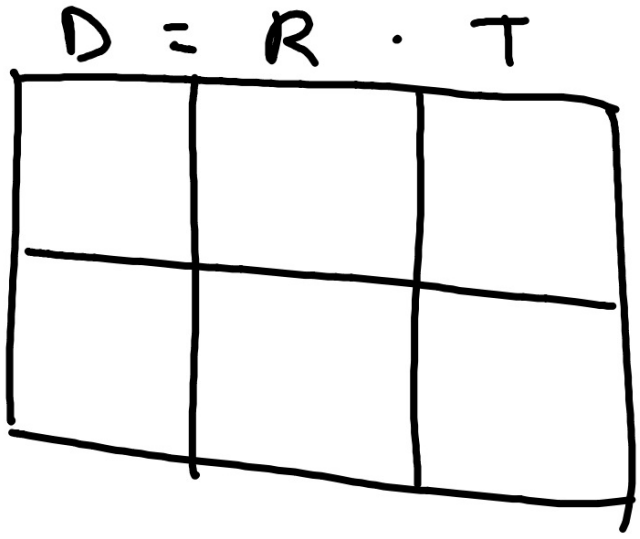
4. $9a - 2b = -8$
$-7a + 3b = 12$

D = R * T

with
R+W
B+C

against
R-W
B-C

wind
current
upstream
downstream



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	= R	· T
with	16	(K+C)	2
against	16	(K−C)	4

6 = kayak

6 mi/hr

$16 = 2(k+c)$

$16 = 4(k-c)$

$16 = 2k + 2c$

$16 = 4k - 4c$

$16 = 2 \cdot 6 + 2c$

$16 = 12 + 2c$

$\frac{4}{2} = \frac{2c}{2}$

$16 = 2k + 2c \xrightarrow{2} 32 = 4k + 4c$

$16 = 4k - 4c \quad\quad 16 = 4k - 4c$

$\frac{48}{8} = \frac{8k}{8}$ $\quad k = 6$

$D = R \cdot T$

with	450	$(P+W)$	2
against	450	$(P-W)$	3

$450 = 2(P+W)$

$450 = 3(P-W)$

$450 = 2P + 2W \xrightarrow{3} 1350 = 6P + 6W$

$450 = 3P - 3W \xrightarrow{2} 900 = 6P - 6W$

$2250 = 12P$

$\frac{2250}{12} = \frac{12P}{12}$

$P = 187.5 \frac{mi}{hr}$

P. 360

25

nurse 240 min $90
4 hr

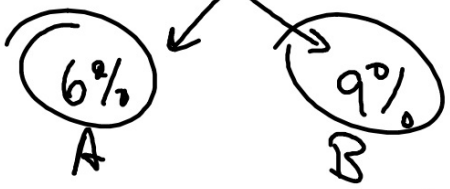
Supp. St. 360 min $120
6 hr.

(min) $240n + 360s = 3000$

($) $90n + 120s = 1050$

WB
6.4

(15) 10,000 $684



$A + B = 10,000$

$.06A + 0.09B = 684$