

CHAPTER 7 PRACTICE TEST

STUDY TIPS

NAME:
DATE

CH7 Review WP page 479 #28 and
page 475 #'s 6, 8, 10, 14, 20, 22

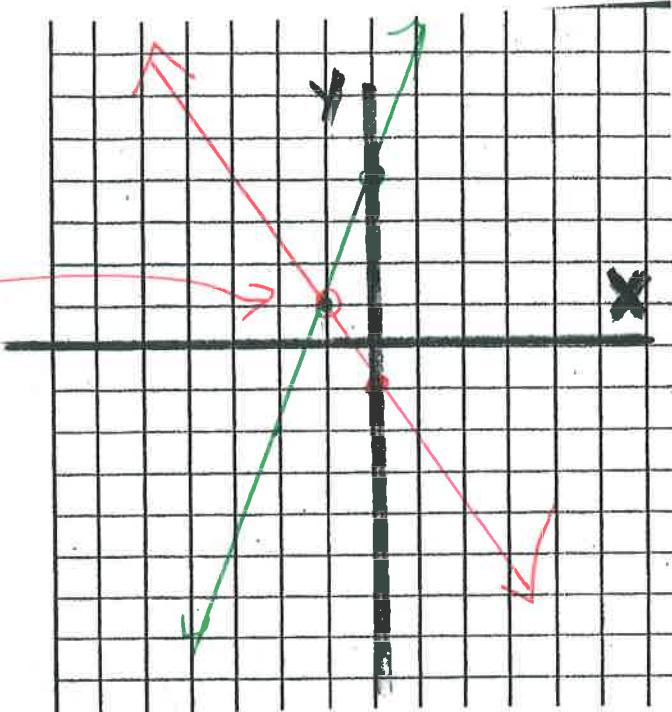
EXERCISES

Solve the linear system by graphing. Check your solution.

$$6. \begin{aligned} y &= 3x + 4 \\ y &= -2x - 1 \end{aligned}$$

$$\begin{aligned} C: 1 &= 3(-1) + 4 \\ 1 &= 1 \checkmark \end{aligned}$$

$$\begin{aligned} C: 1 &= -2(-1) - 1 \\ 1 &= 1 \checkmark \end{aligned}$$



EXERCISES

Solve the linear system using substitution.

$$8. \begin{aligned} y &= 2x - 7 \\ x + 2y &= 1 \end{aligned}$$

$$\begin{aligned} x + 2(2x - 7) &= 1 \\ x + 4x - 14 &= 1 \\ 5x - 14 &= 1 \\ +14 &+14 \\ 5x &= 15 \\ \cancel{5}x &= \cancel{15} \\ x &= 3 \end{aligned}$$

$$\begin{aligned} y &= 2(3) - 7 \\ y &= -1 \end{aligned}$$

$$\begin{aligned} C: -1 &= 2(3) - 7 \\ -1 &= -1 \checkmark \end{aligned}$$

$$\begin{aligned} C: 3 + 2(-1) &= 1 \\ 1 &= 1 \checkmark \end{aligned}$$

$$10. \begin{aligned} 2x + y &= -15 \\ y - 5x &= 6 \end{aligned} \rightarrow y = -2x - 15$$

$$\begin{aligned} y &= 5(-3) + 6 \\ y &= -9 \end{aligned}$$

$$\begin{aligned} 2x + (5x + 6) &= -15 \\ 7x + 6 &= -15 \\ -6 &-6 \\ 7x &= -21 \\ \cancel{7}x &= \cancel{-21} \\ x &= -3 \end{aligned}$$

$$\begin{aligned} C: 2(-3) + -9 &= -15 \\ -15 &= -15 \checkmark \end{aligned}$$

$$\begin{aligned} -9 - 5(-3) &\neq 6 \\ 6 &= 6 \checkmark \end{aligned}$$

Solve the linear system using elimination.

$$\begin{array}{l} \text{14. } \begin{array}{l} x + 7y = 12 \\ -1(-2x + 7y = 18) \end{array} \rightarrow \begin{array}{r} x + 7y = 12 \\ + 2x - 7y = -18 \end{array} \downarrow \\ \hline \begin{array}{r} 3x = -6 \\ \frac{3x}{3} = -\frac{6}{3} \\ x = -2 \end{array} \end{array}$$

$$\begin{array}{l} \text{FIND Y} \\ \begin{array}{r} -2x + 7(y) = 12 \\ +2 \\ \hline 7y = 14 \end{array} \\ \frac{7y}{7} = \frac{14}{7} \\ y = 2 \end{array}$$

$$\begin{array}{l} \text{20. } \begin{array}{l} \left. \begin{array}{l} 3x - 5y = -7 \\ -4x + 7y = 8 \end{array} \right\} \begin{array}{l} 4 \\ 3 \end{array} \rightarrow \begin{array}{r} 12x - 20y = -28 \\ -12x + 21y = 24 \end{array} \downarrow \\ \hline \begin{array}{r} y = -4 \\ \end{array} \end{array} \end{array}$$

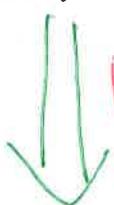
FIND X:

$$\begin{array}{r} 3x - 5(-4) = -7 \\ 3x + 20 = -7 \\ -20 \quad -20 \\ \hline 3x = -27 \\ \frac{3x}{3} = \frac{-27}{3} \\ x = -9 \end{array}$$

$$\begin{array}{l} \text{22. } \begin{array}{l} 5x = 3y - 2 \\ 3x + 2y = 14 \end{array} \end{array}$$

$$\begin{array}{l} C: 3(-9) - 5(-4) = -7 \\ -27 + 20 = -7 \\ -7 = -7 \checkmark \end{array}$$

$$\begin{array}{l} C: -4(-9) + 7(-4) = 8 \\ 36 - 28 = 8 \\ 8 = 8 \checkmark \end{array}$$



PUT IN STD FORM
 $Ax + By = C$

$$\begin{array}{l} (5x - 3y = -2) \times 3 \rightarrow \begin{array}{r} 15x - 9y = -6 \\ 0 \end{array} \downarrow \\ (3x + 2y = 14) \times -5 \rightarrow \begin{array}{r} -15x - 10y = -70 \\ 0 \end{array} \downarrow \\ \hline \begin{array}{r} -19y = -76 \\ \frac{-19y}{-19} = \frac{-76}{-19} \\ y = 4 \end{array} \end{array}$$

$$\begin{array}{l} \text{FIND X} \\ 5x = 3(4) - 2 \\ 5x = 10 \\ x = 2 \end{array}$$

$$\begin{array}{l} C: 5(2) = 3(4) - 2 \\ 10 = 10 \checkmark \end{array}$$

$$\begin{array}{l} C: 3(2) + 2(4) = 14 \\ 14 = 14 \checkmark \end{array}$$

28. **TRUCK RENTALS** Carrie and Dave each rent the same size moving truck for one day. They pay a fee of x dollars for the truck and y dollars per mile they drive. Carrie drives 150 miles and pays \$215. Dave drives 120 miles and pays \$176. Find the amount of the fee and the cost per mile.

Carrie:

K.I: DRIVES 150 miles
PAYS \$215

$x = \$$ for truck
 $y = \$/\text{mile}$ they drive

Dave
Drives \$20 mile
\$176

$$\begin{array}{rcl} \text{Carrie: } x + 150y & = 215 & \xrightarrow{\quad} \\ \text{Dave: } (x + 120y) \times -1 & \xrightarrow{\quad} & \end{array} \quad \begin{array}{r} x + 150y = 215 \\ -x - 120y = -176 \\ \hline 30y = 39 \\ \cancel{30} \quad \cancel{30} \\ y = \$1.30 \end{array}$$

FIND x

$$\begin{array}{rcl} x + 150(1.30) & = 215 \\ x + 195 & = 215 \\ -195 & -195 \\ \hline x & = \$20 \end{array}$$

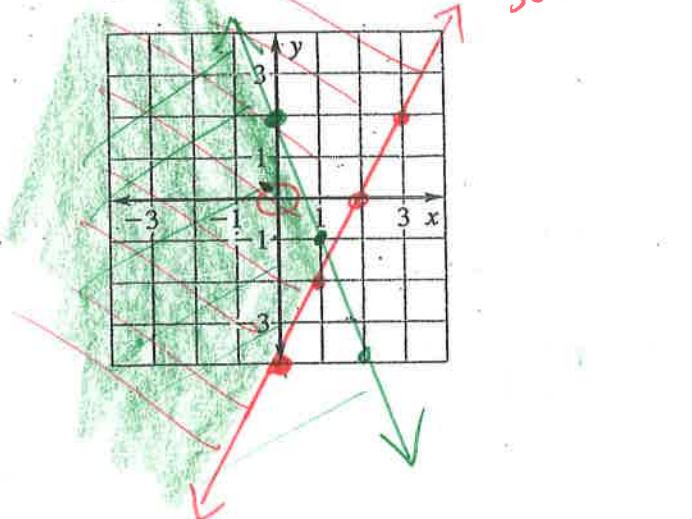
Cost \$1.30 per mile and \$20 for truck

Graph the system of inequalities.

[10]

$$T(0,0) \quad 0 > -4 + y \quad y \geq 2x - 4$$

$$0 \leq 2T \quad y \leq -3x + 2$$



[11]

$$\circ y > 1$$
$$\circ x < -1$$

