CHAPTER 7 PRACTICE TEST

STUDY TIPS

NAME:

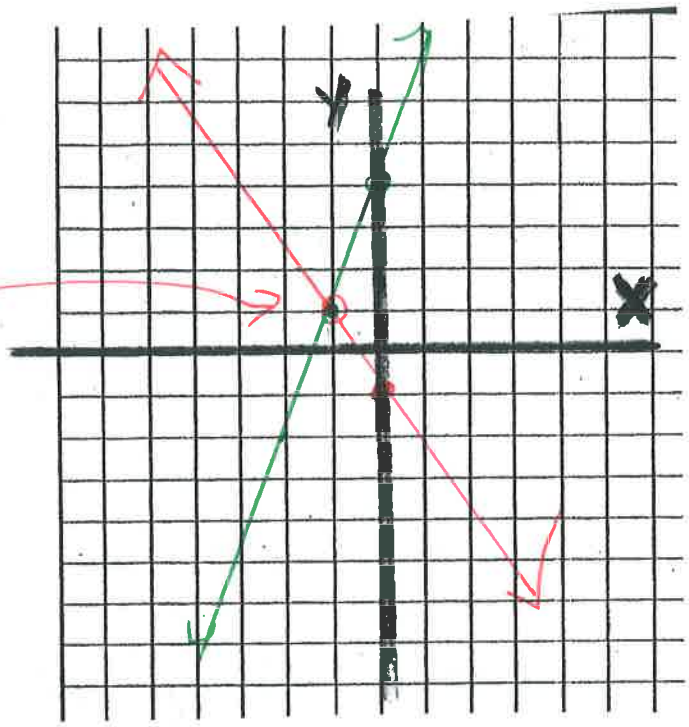
DATE

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



(-1, 1)

C: $1 = 3(-1)+4$
$1 = 1$ ✓

C: $1 = -2(-1)-1$
$1 = 1$ ✓

EXERCISES

Solve the linear system using substitution.

8. $y = 2x - 7$
   $x + 2y = 1$

$x + 2(2x-7) = 1$
$x + 4x - 14 = 1$
$5x - 14 = 1$
$+14 \quad +14$
$\frac{5x}{5} = \frac{15}{5}$
$x = 3$

$y = 2(3) - 7$
$y = -1$

C: $-1 = 2(3) - 7$
$-1 = -1$ ✓

C: $3 + 2(-1) = 1$
$1 = 1$ ✓

10. $2x + y = -15$
    $y - 5x = 6$ → $y = 5x + 6$

or $y = -2x - 15$

$2x + (5x+6) = -15$
$7x + 6 = -15$
$-6 \quad -6$
$\frac{7x}{7} = \frac{-21}{7}$
$x = -3$

$y = 5(-3) + 6$
$y = -9$

C: $2(-3) + -9 = -15$
$-15 = -15$ ✓

$-9 - 5(-3) = 6$
$6 = 6$ ✓

Solve the linear system using elimination.

14. $x + 7y = 12$
$-2x + 7y = 18$

$-1(-2x + 7y = 18) \rightarrow +2x - 7y = -18$

$x + 7y = 12$

$3x = -6$

$x = -2$

FIND Y

$-2 + 7(y) = 12$

$+2 \quad +2$

$7y = 14$

$y = 2$

20. $3x - 5y = -7$
$-4x + 7y = 8$

$4 \rightarrow 12x - 20y = -28$

$3 \rightarrow -12x + 21y = 24$

$y = -4$

FIND X:

$3x - 5(-4) = -7$

$3x + 20 = -7$

$-20 \quad -20$

$3x = -27$

$x = -9$

C: $3(-9) - 5(-4) = -7$

$-27 + 20 = -7$

$-7 = -7$ ✓

C: $-4(-9) + 7(-4) = 8$

$36 - 28 = 8$

$8 = 8$ ✓

22. $5x = 3y - 2$
$3x + 2y = 14$

PUT IN STD FORM

$Ax + By = C$

$5x - 3y = -2) \times 3 \rightarrow 15x - 9y = -6$

$3x + 2y = 14) \times -5 \rightarrow -15x - 10y = -70$

$-19y = -76$

$y = 4$

FIND X

$5x = 3(4) - 2$

$5x = 10$

$x = 2$

C: $5(2) = 3(4) - 2$

$10 = 10$ ✓

C: $3(2) + 2(4) = 14$

$14 = 14$ ✓

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:

KI: DRIVES 150miles
pays \$215

x = \$ for truck
y = \$/mile they drive

Dave
Drives \$20 mile
\$176

Carrie: $x + 150y = 215$ → $x + 150y = 215$

Dave: $(x + 120y = 176) \times -1$ → $-x - 120y = -176$ ↓

+

$30y = 39$

$\frac{30y}{30} = \frac{39}{30}$

$y = \$1.30$

FIND x

$x + 150(1.30) = 215$

$x + 195 = 215$

$-195 \quad -195$

$x = \$20$

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

Graph the system of inequalities.

SOLID LINE

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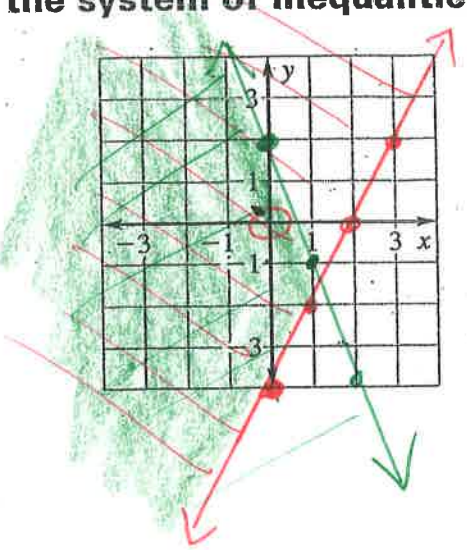
T(0,0) $0 \geq -4$ $y \geq 2x - 4$

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



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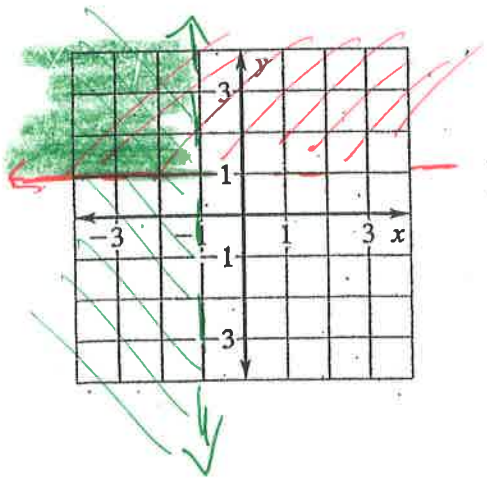
- $y > 1$

$x < -1$



→ dashed lines