Homework Review - 3.7, 3.8

(18) 71.5 is 52% of what #?

$$\frac{13}{25}\ \frac{\cancel{26}\ 52}{\cancel{50}\ \cancel{100}} = \frac{71.5}{x}$$

$x = 137.5$

$$71.5 \times 25$$

③ $ax = bx - c$; $8x = 3x - 10$

$a = 8$
$b = 3$
$c = 10$
$x = ?$

$-bx \quad -bx$

$(ax - bx) = -c$

$\frac{(a-b)x}{(a-b)} = \frac{-c}{(a-b)}$

$x = \frac{-c}{a-b}$

$-3x \quad -3x$

$(8x - 3x) = -10$

$\frac{5x}{5} = \frac{-10}{5}$

$x = -2$

$\frac{-10}{8-3} = \frac{-10}{5} = -2$

$$5x + 4y = 10$$
$$-5x \qquad -5x$$
$$\frac{4y}{4} = \frac{-5x + 10}{4}$$
$$y = \frac{-5x + 10}{4}$$

PARKS A rectangular city park has an area of 211,200 square feet. If the length of the park is 660 feet, what is the width of the park?

$\ell = 660$ ft

$a = 211200$ ft^2 $w = ?$

$A = \ell \times w$

$211200 = 660w$

$4y + 1(y - 4) = -20$

$4y - y + 4 = -20$

$3y + 4 = -20$

$-x + 4 = -x + 4$

$-(x + 4) = -x - 4$

$\frac{3}{4} \cdot \frac{4}{3}(2x - 1) = -\frac{12}{1} \cdot \frac{3}{1}$

$2x - 1 = -9$

FOOTBALL You purchase 5 tickets to a football game from an Internet ticket agency. In addition to the cost per ticket, the agency charges a convenience charge of $2.50 per ticket. You choose to pay for rush delivery, which costs $15. The total cost of your order is $352.50. What is the price per ticket not including the convenience charge?

conv. fee: $2.50 per ticket

delivery: $15

total cost: $352.50

ticket price: ?(p)

# of tickets: 5

$$\$15 + 5p + 5(\$2.5) = \$352.50$$

$$15 + 5p + 12.5 = 352.50$$

$$\frac{5p}{5} = \frac{325}{5}$$

$$p = 65$$

$$6(2a + 10) = 5(a + 5)$$

$12a + 60 = 5a + 25$

$$4(x - 3) = -2(6 - 2x)$$

$4x - 12 = -12 + 4x$

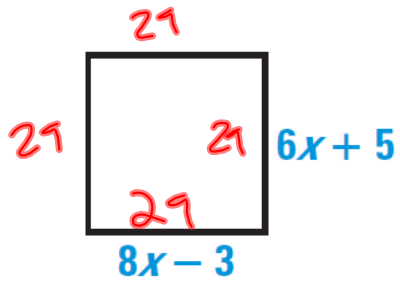
$-4x \qquad -4x$

$-12 = -12$ ALL REAL #'S

GEOMETRY Refer to the square shown.

a. Find the value of x.

b. Find the perimeter of the square.



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$8x - 3 = 6x + 5$

$-6x \quad -6x$

$2x - 3 = 5$

$+3 \quad +3$

$\frac{2x}{2} = \frac{8}{2}$

$x = 4$

$8(4) - 3$

$32 - 3 = 29$

$6(4) + 5$

$24 + 5 = 29$

$$\frac{c+2}{45} = \frac{8}{5}$$

$5(c+2) = 8.45$

$5c + 10 = 360$

PAINTING The label on a can of paint states that one gallon of the paint will cover 560 square feet. How many gallons of that paint are needed to cover 1400 square feet?

$$\frac{1 \text{ gallon}}{560 \text{ sq. ft.}} = \frac{x \text{ gallons}}{1400 \text{ sq. ft.}}$$

$1400 = 560x$

What number is 30% of 55?

$$\frac{30}{100} = \frac{x}{55}$$

What percent of 56 is 21?

$$\frac{x}{100} = \frac{21}{56}$$

CONCERTS There were 7500 tickets sold for a concert, 20% of which were general admission tickets. How many general admission tickets were sold?

$$\frac{20}{100} = \frac{x}{7500}$$

$$3x = 2y - 18$$

$+18 \quad - \quad +18$

$$\frac{3x+18}{2} = \frac{2y}{2} \qquad y = \frac{3x+18}{2}$$

AQUARIUMS A pet store sells aquariums that are rectangular prisms. The volume V of an aquarium is given by the formula $V = \ell wh$ where ℓ is the length, w is the width, and h is the height.

Find ℓ

$$\frac{V}{wh} = \frac{\ell wh}{wh} \qquad \ell = \frac{V}{wh}$$

$2g + 11 < 25$

$-11 \quad -11$

$2g < 14$

$3 \cdot \left(\frac{2}{3}r - 4\right) \geq 1 \cdot 3$

$2r - 12 \geq 3$

$3(q + 1) < 3q + 7$

$3q + 3 < 3q + 7$

$-3q \quad -3q$

$3 < 7$ TRUE for all real #'s

TICKET PURCHASES You can order discount movie tickets from a website for $7 each. You must also pay a shipping fee of $4. You want to spend no more than $40 on movie tickets. Find the possible numbers of movie tickets that you can order.

spend $\leq$ \$40

tickets: \$7 each

shipping: \$4

tickets: t

$7t + 4 \leq 40$

$-6 \le 2t - 5 \le -3$

$-6 \le 2t - 5$ $\quad$ $2t - 5 \le -3$

$+5 \quad +5$ $\quad$ $+5 \quad +5$

$\frac{-1}{2} \le \frac{2t}{2}$ $\quad$ $\frac{2t}{2} \le \frac{2}{2}$

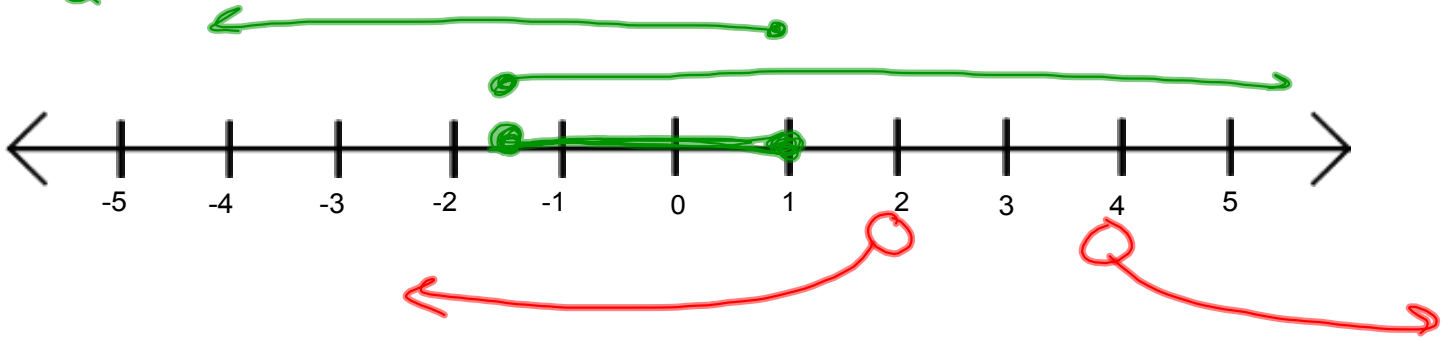
$t \ge -\frac{1}{2}$ $\quad$ $t \le 1$

$9s - 6 < 12$ *or* $3s + 1 > 13$

$+6 \quad +6$ $\quad$ $-1 \quad -1$

$\frac{9s}{9} < \frac{18}{9}$ $\quad$ $\frac{3s}{3} > \frac{12}{3}$

$s < 2$ $\quad$ $s > 4$



Homework:

Study for the test tomorrow!

Suggested practice:
Relevant problems on Ch. 3 test (p. 197)
Relevant problems on Ch. 6 test (p. 419)