

**Math 107
Fall 2017
Lecture 5**



Translate only:

Some number times 3 less than the number is equal to 10.

Let x be some number,

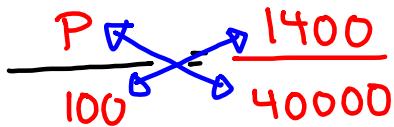
$$x \cdot (x - 3) = 10$$

Square root of Some number increased by the number is equal to zero.

Let x be some #, $\sqrt{x} + x = 0$

What percent of 40000 is 1400?

$$\frac{P}{100} = \frac{\text{Part}}{\text{whole}}$$



$$40000 P = 100(1400)$$

$$P = \frac{100(1400)}{40000} = \frac{14}{4} = \frac{7}{2} = 3.5$$

3.5% of 40000 is 1400

How many fish in East LA lake?

Mike caught 20 fish, tagged them all, place them back into the lake.

few days later, he caught 8 fish but only 3 of them had tags. Use proportion to find # of fish in the lake. $\frac{x \text{ fish}}{20 \text{ tag.}} = \frac{8 \text{ fish}}{3 \text{ tag.}}$

$$\frac{x}{20} = \frac{8}{3}$$

$$3x = 8(20)$$

$$x = \frac{160}{3}$$

$$x = 53.\overline{3}$$

Round about 53 fish
Round-up 54 fish

Mike has two part time jobs.

He made \$1080 from both jobs.

His income from one job was \$80 more than 3 times the other job. Find his income from each one.

$$\boxed{\text{Job 1}} + \boxed{\text{Job 2}} = 1080$$

$$x + 3x + 80 = 1080$$

$$250, 3(250) + 80$$

$$\$250, \$830$$

$$4x + 80 = 1080$$

$$4x = 1080 - 80$$

$$4x = 1000$$

$$x = \frac{1000}{4} \quad x = 250$$

Lisa took a multiple-choice test with

71 questions.

of correct answers was 10 fewer than twice the # of wrong ans.

How many of each?

27 wrong

⋮

44 correct

$$\boxed{\text{Wrong}} + \boxed{\text{Correct}} = 71$$

$$x + 2x - 10 = 71$$

$$3x - 10 = 71$$

$$3x = 71 + 10$$

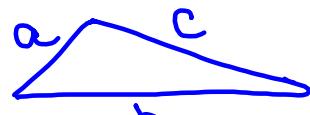
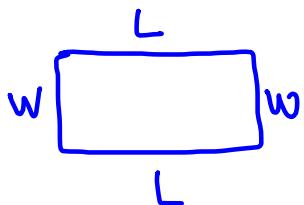
$$3x = 81$$

$$x = \frac{81}{3} = 27$$

Ch.5

Geometric Perimeters

around the shape



$$P = a + b + c$$

$$P = 2L + 2W$$

Rna has a Carpet in rectangular shape with perimeter 40 ft.

Its length is 6 ft longer than its width.

Find its dimensions.

$$P = 40$$

7ft by 13ft

$$L = x + 6$$

$$13 \text{ ft}$$

$$W = x$$

$$2L + 2W = 40$$

$$P = 2L + 2W$$

$$2(x+6) + 2(x) = 40$$

$$\rightarrow 4x = 40 - 12$$

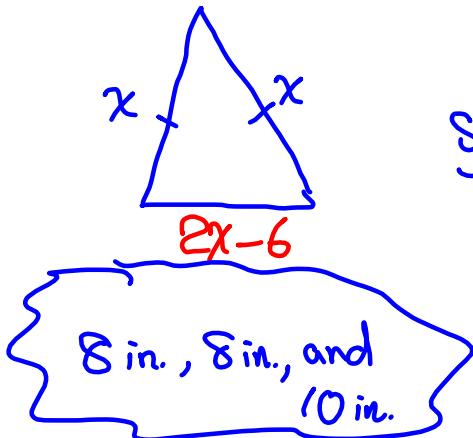
$$2x + 12 + 2x = 40$$

$$4x = 28$$

$$4x + 12 = 40$$

$$x = \frac{28}{4} \quad \boxed{x = 7}$$

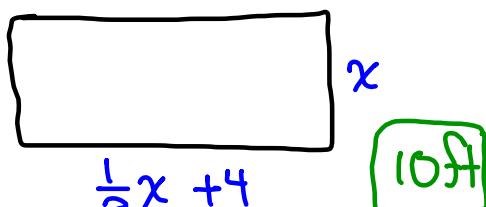
Two Sides of a triangular sign are equal. The third side is 6 inches shorter than the sum of equal sides. The perimeter is 26 inches. Find all three sides.



$$\begin{aligned} P &= 26 \\ \text{Side 1} + \text{Side 2} + \text{Side 3} &= 26 \\ x + x + 2x-6 &= 26 \\ 4x - 6 &= 26 \\ 4x &= 32 \\ x &= 8 \end{aligned}$$

Rectangular garden has a length 4 ft longer than half of its width.

1) Draw & label.



2) find its length if the perimeter is 44 ft.

$$2L + 2W = 44$$

$$2(\frac{1}{2}x+4) + 2(x) = 44$$

$$2 \cdot \frac{1}{2}x + 2 \cdot 4 + 2x = 44$$

$$\frac{1}{2}(12) + 4 = 6 + 4 =$$

$$3x + 8 = 44$$

$$3x = 44 - 8$$

$$3x = 36$$

$$x = \frac{36}{3} = 12$$

WP 4 Monday

WP 5 Wednesday

