

Perimeter of a figure

The perimeter of a square is 40cm. What is the length of the diagonal?

$$10\sqrt{2}$$

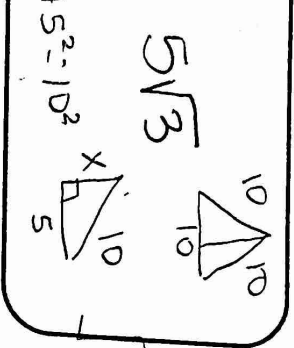
Ramp

A 8ft ramp is leaning against a house 4 ft high. How far is the base of the ramp from the house?

$$4\sqrt{3}$$

Equilateral triangle

The perimeter of an equilateral triangle is 30in. Find the altitude.



$$5\sqrt{3}$$

$$10^2 = 10^2$$

$$x^2 + 25 = 100$$

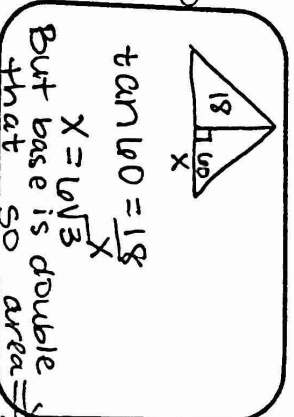
$$x^2 = 75$$

$$x = \sqrt{75}$$

$$5\sqrt{3}$$

Area of a triangle

The altitude of an equilateral triangle is 18 ft. What is the area?



$$\tan 60 = \frac{18}{x}$$

$$x = \frac{18}{\sqrt{3}}$$

But base is double that so area =  $\frac{1}{2}(18)(12\sqrt{3})$

$$187.1$$

Kite

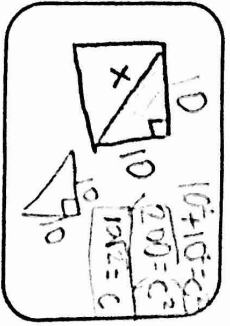
A boy is flying a kite. He is standing 32 meters away and the kite is 14 m above the ground. How long is the kite string?

$$\sqrt{1220}$$

or

$$2\sqrt{305}$$

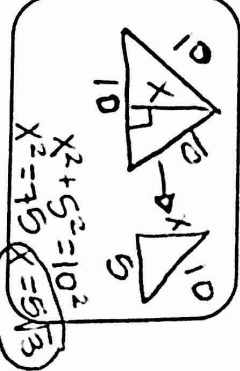
The perimeter of a square is 40cm. What is the length of the diagonal?



$$100 = c^2$$

$$c = 10\sqrt{2}$$

The perimeter of an equilateral triangle is 30in. Find the altitude.



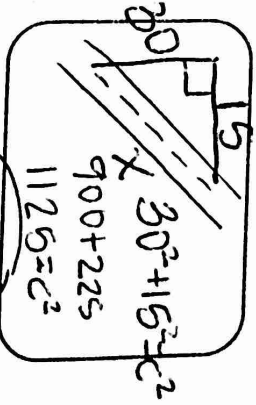
$$x^2 + 5^2 = 10^2$$

$$x^2 = 75$$

$$x = 5\sqrt{3}$$

Intersection

Jamerson Road and Shiloh make a perpendicular intersection. The county wants to build a new road. The new road will intersect 30 miles South of Jamerson and 15 miles East of Shiloh. How long will the new road be?



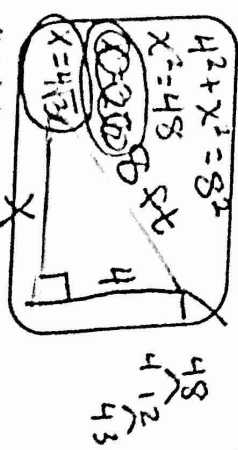
$$30^2 + 15^2 = x^2$$

$$900 + 225 = x^2$$

$$1125 = x^2$$

$$x = 15\sqrt{5}$$

A 8ft ramp is leaning against a house 4 ft high. How far is the base of the ramp from the house?



$$4^2 + x^2 = 8^2$$

$$x^2 = 48$$

$$x = 4\sqrt{3}$$

The altitude of an equilateral triangle is 18 ft. What is the area?



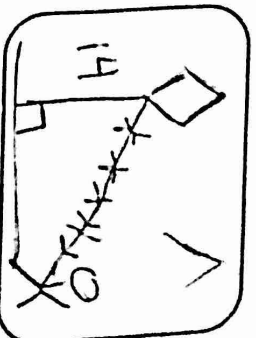
$$A = \frac{1}{2}bh$$

$$A = \frac{1}{2}(18)(12\sqrt{3})$$

$$187.1$$

Kite

A boy is flying a kite. He is standing 32 meters away and the kite is 14 m above the ground. How long is the kite string?



$$14^2 + 32^2 = x^2$$

$$196 + 1024 = x^2$$

$$\sqrt{1220} = x$$

$$2\sqrt{305}$$

$$1125$$

$$\sqrt{1125}$$

$$33.7$$

$$196 + 1024 = x^2$$

$$\sqrt{1220} = x$$

$$35.07$$