Name _____ Date _____

Spring Geometry

Instructions: Spring is full of windy days which are perfect for flying a kite. Help the kite maker create perfect kites by solving the problems below.

Pythagorean's Theorem states that the sides of a right triangle are related through the equation:

$a^2 + b^2 = c^2$ where a and b are lengths of sides adjacent to the right angle and c is the length of the side opposite the right angle.

On the kite shown, use Pythagorean's Theorem to find the length of the outer edge of the blue section on the kite if the inner two edges are 12 inches and 13 inches respectively.

On the kite shown, use Pythagorean's Theorem to find the length of the vertical edge of the red section on the kite if the short edge adjacent to the right angle is 13 inches and the edge opposite the right angle is 21 inches.

If the yellow and red sections are the same size and the blue and green sections are the same size, what is the total surface area of the front of the kite?

Name _____ Date _____

Answer Key

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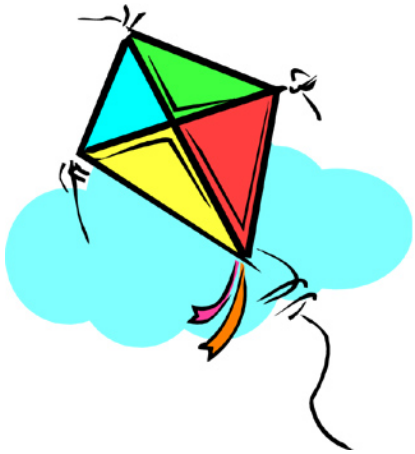
On the kite shown, use Pythagorean's Theorem to find the length of the outer edge of the blue section on the kite if the inner two edges are 12 inches and 13 inches respectively.



$a^2 + b^2 = c^2$

$12^2 + 13^2 = c^2$

c = sqrt (144 + 169) = sqrt (313) = 17.69 inches

On the kite shown, use Pythagorean's Theorem to find the length of the vertical edge of the red section on the kite if the short edge adjacent to the right angle is 13 inches and the edge opposite the right angle is 21 inches.

$a^2 + b^2 = c^2$

$13^2 + b2 = 21^2$

b = sqrt (441 – 169) = sqrt (272) = 16.49 inches

If the yellow and red sections are the same size and the blue and green sections are the same size, what is the total surface area of the front of the kite?

Surface area = 12 x 13 + 13 x 16.49 = 370.37 inches^2