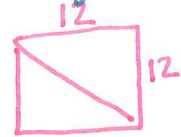


Day 2 Special Right Triangle In Class Work

Key

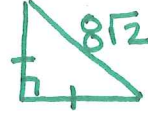
1. The sides of a square are 12 inches long. What is the length of the diagonal?

$\text{diag} = 12\sqrt{2} \text{ in}$



2. An isosceles right triangle has a hypotenuse of $8\sqrt{2}$ cm. What is the length of the legs of the triangle?

$\text{legs} = 8 \text{ cm}$

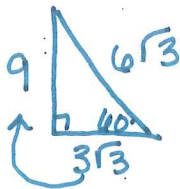


3. An equilateral triangle sides are 10 inches. What is the length of the altitude?



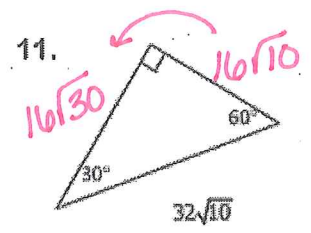
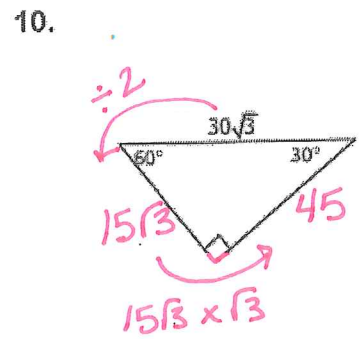
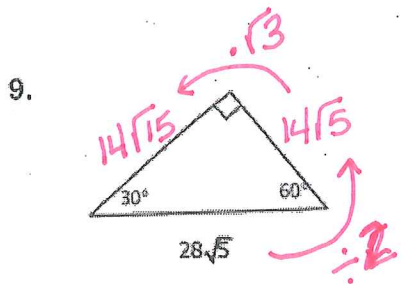
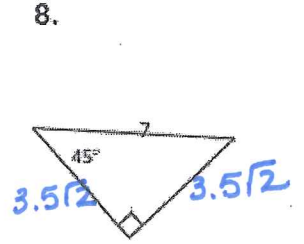
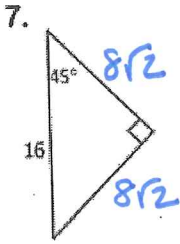
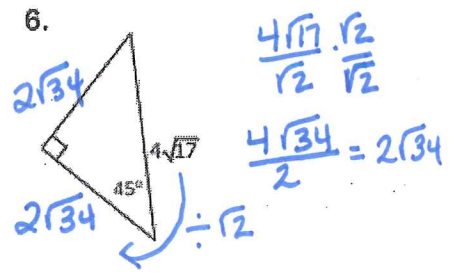
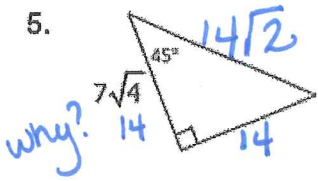
$\text{altitude} = 5\sqrt{3} \text{ inches}$

4. In a $30^\circ - 60^\circ - 90^\circ$ triangle, the hypotenuse is $6\sqrt{3}$, what is the length of the legs of the triangle?

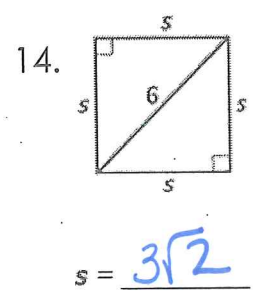
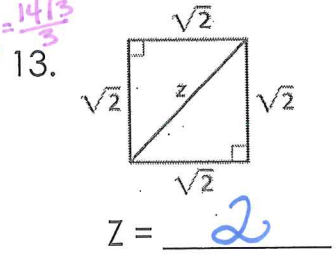
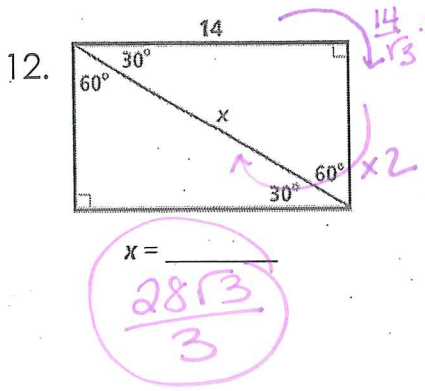


Short leg = $3\sqrt{3}$
long leg = 9

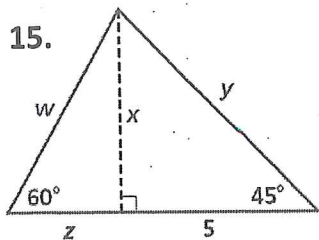
Directions: Find the missing side lengths.



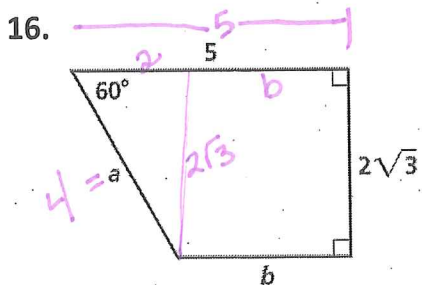
Find the value of each variable. Leave your answers in simplest radical form.



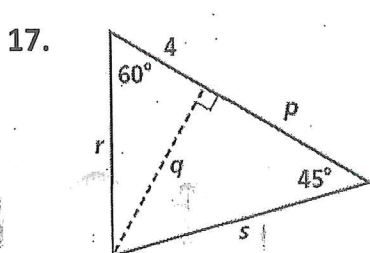
Algebra Find the exact value of each variable. Leave your answers in simplest radical form.



$w = \frac{10\sqrt{3}}{3}$
 $x = \frac{5}{3}$
 $y = \frac{5\sqrt{2}}{3}$
 $z = \frac{5\sqrt{3}}{3}$



$a = \frac{4}{3}$
 $b = \frac{3}{3}$



$p = \frac{4\sqrt{3}}{8}$
 $q = \frac{4\sqrt{3}}{8}$
 $r = \frac{4\sqrt{3}}{8}$
 $s = \frac{4\sqrt{4}}{8}$

18. Use triangle ABC. Find all missing variables.

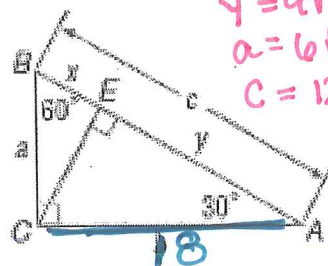
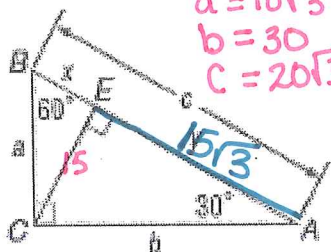
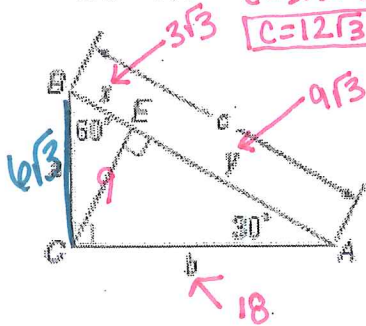
a. $a = 6\sqrt{3}$ $c = 3\sqrt{3} + 9\sqrt{3}$ $C = 12\sqrt{3}$

b. $y = 15\sqrt{3}$

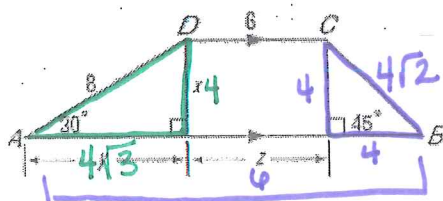
$x = 5\sqrt{3}$
 $a = 10\sqrt{3}$
 $b = 30$
 $c = 20\sqrt{3}$

c. $b = 18$

$x = 3\sqrt{3}$
 $y = 9\sqrt{3}$
 $a = 6\sqrt{3}$
 $c = 12\sqrt{3}$



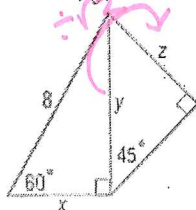
19. Find x, y, z , and the perimeter of trapezoid ABCD.



base₁ = $4\sqrt{3} + 6 + 4$
 base₂ = 6
 leg₁ = 8
 leg₂ = $4\sqrt{2}$

$P = 24 + 4\sqrt{2} + 4\sqrt{3}$

20. Find x, y , and z .



$x = 4$
 $y = 4\sqrt{3}$
 $z = 2\sqrt{6}$
 $\frac{4\sqrt{3} \cdot \sqrt{2}}{\sqrt{2} \cdot \sqrt{2}} = \frac{4\sqrt{6}}{2} = 2\sqrt{6}$