

Additional Review for Chapter 10 Test. You may need a separate sheet of paper for space to show your work.

Key

1.) Solve for x and y. Put your answers in simplified radical form if necessary.

$$3^2 + x^2 = 5^2$$

$$9 + x^2 = 25$$

$$\sqrt{x^2} = \sqrt{16}$$

$x = 4$

$$4^2 + 8^2 = y^2$$

$$16 + 64 = y^2$$

$$\sqrt{80} = \sqrt{y^2}$$

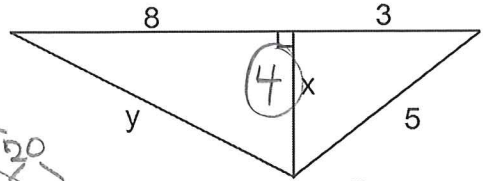
$$y = \sqrt{80}$$

$$\sqrt{80}$$

$$\frac{2 \cdot 40}{2}$$

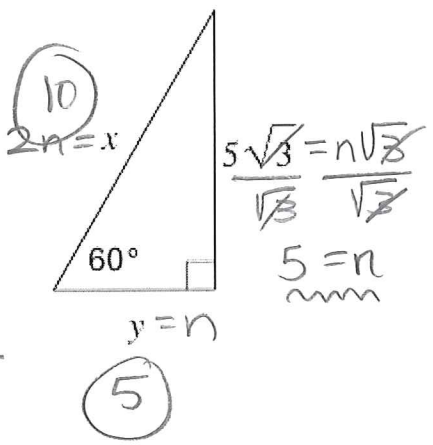
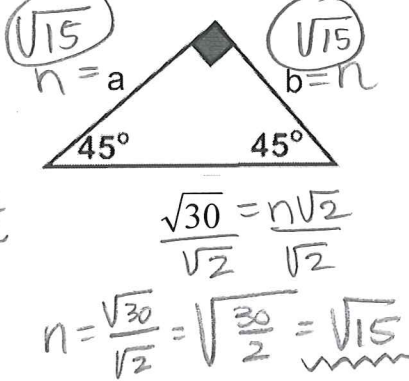
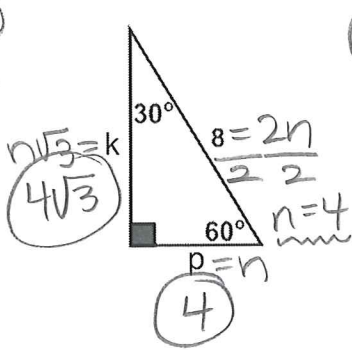
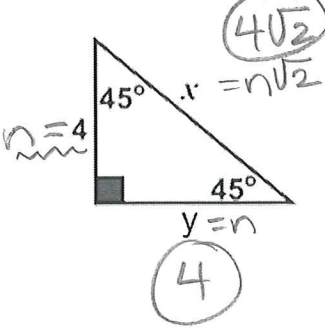
$$\frac{2 \cdot 20}{2}$$

$$\frac{2 \cdot 10}{2} = 5$$



$y = 4\sqrt{5}$

2.) Find the missing side lengths in each of the triangles below.



3.) Put each of the following in simplified radical form.

$$\sqrt{300}$$

$$\frac{3 \cdot 100}{2 \cdot 2}$$

$$\frac{50}{5 \cdot 5}$$

$10\sqrt{3}$

$$\sqrt{90}$$

$$\frac{2 \cdot 45}{5}$$

$$\frac{9}{3 \cdot 3}$$

$3\sqrt{10}$

4.) Determine if the following sets of side lengths form an acute, obtuse, or right triangle. Justify your answers.

12, 16, 14

$$12^2 + 14^2 \stackrel{?}{=} 16^2$$

$$144 + 196 \stackrel{?}{=} 256$$

$$340 > 256$$

ACUTE

15, 7, 9

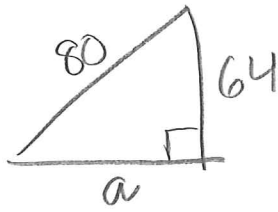
$$7^2 + 9^2 \stackrel{?}{=} 15^2$$

$$49 + 81 = 225$$

$$130 < 225$$

OBTUSE

5.) A 80 foot cable is attached to the roof of an 64 foot building and anchored to the ground. How far from the base of the building is the cable anchored. Draw a triangle to model the situation and solve.



$$a^2 + 64^2 = 80^2$$

$$a^2 + 4096 = 6400$$

$$\sqrt{a^2} = \sqrt{2304}$$

$a = 48 \text{ ft}$

6.) Given the quadrilateral ABCD with A(-4, 1), B(-2, 4), C(4, 0), and D(2, -3). Use the distance formula to find the perimeter of the quadrilateral in simplest radical form.

$$AB = \sqrt{(-2 - (-4))^2 + (4 - 1)^2} = \sqrt{13}$$

$$CD = \sqrt{(2 - 4)^2 + (-3 - 0)^2} = \sqrt{13}$$

$$BC = \sqrt{(4 - (-2))^2 + (0 - 4)^2} = \sqrt{52} = 2\sqrt{13}$$

$$DA = \sqrt{(2 - (-4))^2 + (-3 - 1)^2} = \sqrt{52} = 2\sqrt{13}$$

$$P = \sqrt{13} + 2\sqrt{13} + \sqrt{13} + 2\sqrt{13}$$

$$P = 6\sqrt{13}$$