

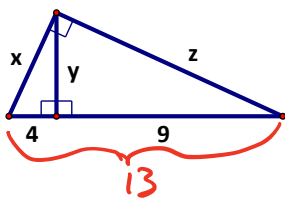
# Right Triangles

Review Chapter 8

Name \_\_\_\_\_

Find the values of  $x$ ,  $y$  and  $z$ . Give exact answers only.

#1)  $(x, y, z) = (2\sqrt{13}, 6, 3\sqrt{13})$



6 points

$$x^2 = 4(13) \quad y^2 = 4(9) \quad z^2 = 9(13) \quad +1$$

$$x = \pm\sqrt{4 \cdot 13} \quad y = \pm\sqrt{4 \cdot 9} \quad z = \pm\sqrt{9(13)} \quad +1$$

$$x = 2\sqrt{13} \quad y = 2 \cdot 3 \quad z = 3\sqrt{13} \quad +1$$

$$y = 6 \quad +1$$

Determine whether a triangle with sides having the given measurements is a right triangle.

#2) 13, 16, 20

$$x^2 + y^2 = r^2 \quad +1$$

$$(13)^2 + (16)^2 = (20)^2 \quad +1$$

$$169 + 256 = 400 \quad +1$$

$$425 \neq 400$$

Not a right  $\Delta$   $\leftarrow +1$

4 points

#3) 5, 3, 4

Pythagorean Triple.

Yes a right  $\Delta$ .

4 points

#4)  $2\sqrt{3}, 2, 4$

$$x^2 + y^2 = r^2 \quad +1$$

$$(2)^2 + (2\sqrt{3})^2 = (4)^2 \quad +1$$

$$4 + 4 \cdot 3 = 16$$

$$4 + 12 = 16 \quad +1$$

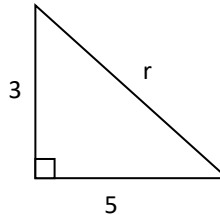
$$16 = 16 \quad +1$$

Yes a right  $\Delta$ .

4 points

Find the value of the variable. Give the exact value and a rounded value to the nearest hundredth. (2 decimal places)

#5)



7 points

$$x^2 + y^2 = r^2 \quad +1$$

$$(5)^2 + (3)^2 = r^2 \quad +1$$

$$25 + 9 = r^2 \quad +1$$

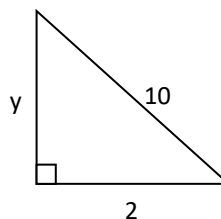
$$34 = r^2 \quad +1$$

$$\pm\sqrt{34} = r \quad +1$$

$$r = \sqrt{34} \quad +1$$

$$r \approx 5.83 \quad +1$$

#6)



8 points

$$x^2 + y^2 = r^2 \quad +1$$

$$(2)^2 + y^2 = (10)^2 \quad +1$$

$$4 + y^2 = 100 \quad +1$$

$$y^2 = 96 \quad +1$$

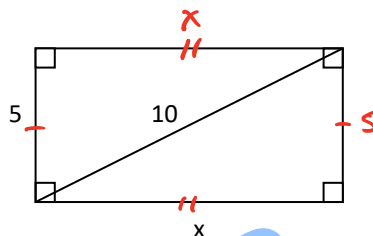
$$y = \pm\sqrt{96} \quad +1$$

$$y = \sqrt{16 \cdot 6} \quad +1$$

$$y = 4\sqrt{6} \quad +1$$

$$y \approx 9.8 \quad +1$$

#7)



8 points

$$x^2 + y^2 = r^2 \quad +1$$

$$x^2 + (5)^2 = (10)^2 \quad +1$$

$$x^2 + 25 = 100 \quad +1$$

$$x^2 = 75 \quad +1$$

$$x = \pm\sqrt{75} \quad +1$$

$$x = \sqrt{25 \cdot 3} \quad +1$$

$$x = 5\sqrt{3} \quad +1$$

$$x \approx 8.66 \quad +1$$

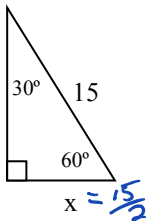
# Right Triangles

Review Chapter 8

Name \_\_\_\_\_

Find the value of the variables indicated. Give the exact value.

#8)



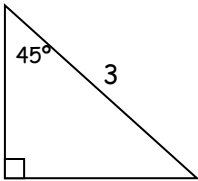
$$2SL = 15$$

$$SL = \frac{15}{2}$$

1 point

+1

#9)



$$SL\sqrt{2} = 3$$

$$SL = \frac{3}{\sqrt{2}}$$

2 points

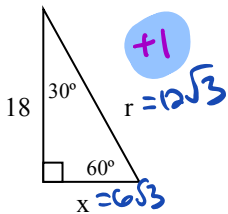
+1

$$SL = \frac{3\sqrt{2}}{2}$$

$$\frac{3\sqrt{2}}{2} = y$$

+1

#10)



$$SL\sqrt{3} = 18$$

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

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

$$SL = 6\sqrt{3}$$

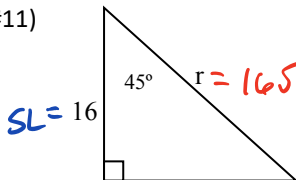
+1

+1

+1

3 points

#11)

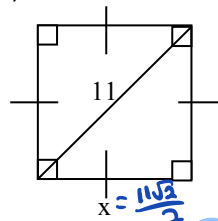


$$r = 16\sqrt{2}$$

+1

1 point

#12)



2 points

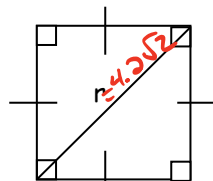
$$SL\sqrt{2} = 11$$

$$SL = \frac{11}{\sqrt{2}}$$

$$SL = \frac{11\sqrt{2}}{2}$$

+1

#13)



$$r = 4.2\sqrt{2}$$

+1

$$SL = 4.2$$

1 point

Simplify the expressions.

#14)  $\sqrt{225}$

$$= \sqrt{15 \cdot 15}$$

$$= 15$$

1 point

$$\sqrt{225}$$

$$= \sqrt{15 \cdot 15}$$

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

$$= 3 \cdot 5$$

#15)  $\sqrt{32}$

$$= \sqrt{16 \cdot 2}$$

$$= 4\sqrt{2}$$

1 point

$$\sqrt{32}$$

$$= \sqrt{4 \cdot 8}$$

$$= \sqrt{2 \cdot 2 \cdot 2 \cdot 2 \cdot 2}$$

$$= 2 \cdot 2\sqrt{2}$$

$$= 4\sqrt{2}$$

#16)  $\sqrt{12}$

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

$$= 2\sqrt{3}$$

1 point

$$\sqrt{12}$$

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

$$= \sqrt{2 \cdot 2 \cdot 3}$$

$$= 2\sqrt{3}$$