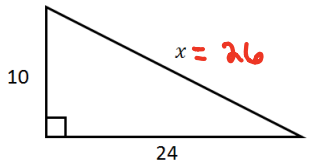
Math 2 Name: Key

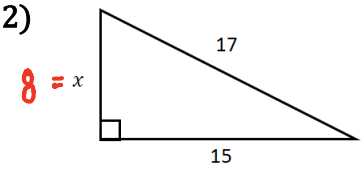
Unit 5 Test Review

Find the missing sides. Round to the nearest tenth.

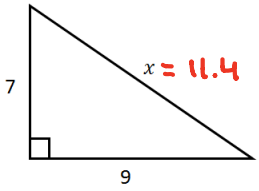
1)



2)



3)



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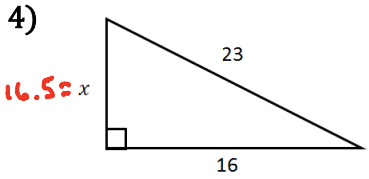


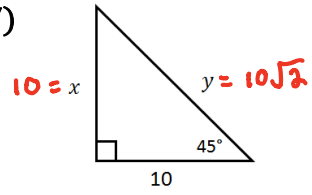
Determine if the following triangle lengths form a right triangle.

5) 25, 7, 24 Right Triangle / Not Right Triangle

6) 25, 20, 17 Right Triangle / Not Right Triangle

Use the rules of special right triangles to solve for missing sides. Provide exact answers in simplified radical form.

7)



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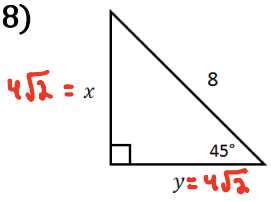

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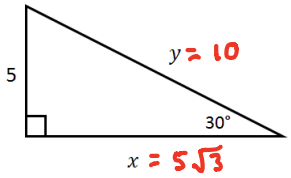

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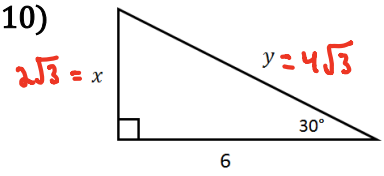
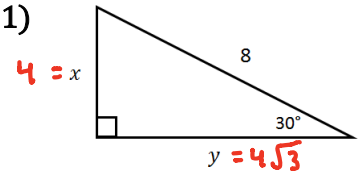


11)



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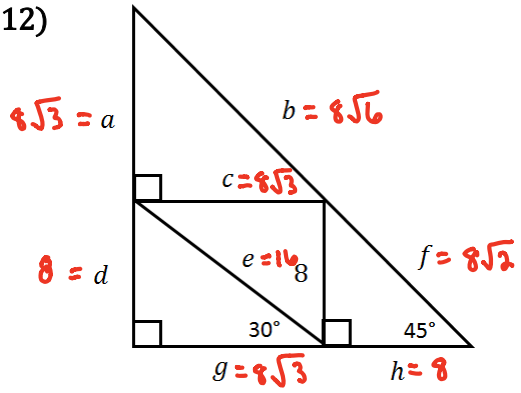
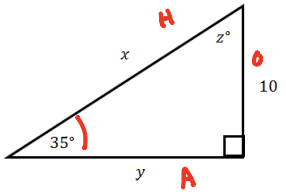


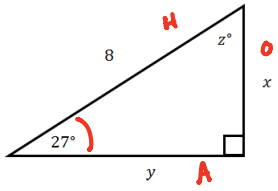
Use right triangle trig rules to solve for the missing sides and angles. Round to the nearest tenth.

13) 

$x = 17.4$

$y = 14.3$

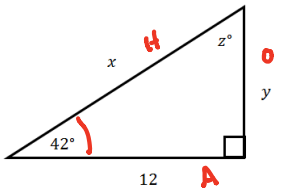
$z = 55^\circ$

14) 

$x = 3.6$

$y = 7.1$

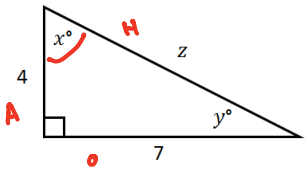
$z = 63^\circ$

15) 

$x = 16.1$

$y = 10.8$

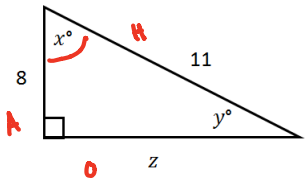
$z = 48^\circ$

16) 

$x = 60^\circ$

$y = 30^\circ$

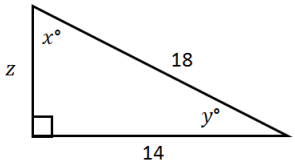
$z = 8.1$

17) 

$x = 43^\circ$

$y = 47^\circ$

$z = 7.5$

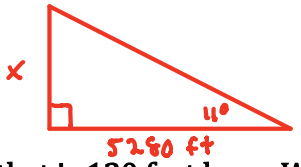
18) 

$x = 51^\circ$

$y = 39^\circ$

$z = 11.3$

19) The angle of elevation to the top of the Empire State Building in New York is 11° from a point on the ground 1 mile from the base of the building. Find the height of the Empire State Building in feet. Note: 5280 feet in a mile.



$x \approx 1026.33$ ft

20) A 96 foot tree casts a shadow that is 120 feet long. What is the angle of elevation of the sun?

$x \approx 39^\circ$

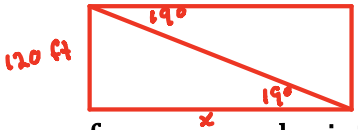
21) A man is lying on the beach, flying a kite. He holds the end of the kite string at ground level and estimates the angle of elevation of the kite to be 50°. If the string is 450 feet long, how high is the kite above the ground?

$x \approx 344.72$ ft.

22) Find the altitude of an equilateral triangle with base 6 feet.

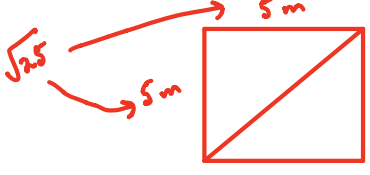
$3\sqrt{3}$ ft. or 5.2 ft.

23) From the top of a 120 foot tower, an air traffic controller observes an airplane on the runway at an angle of depression of 19°. How far from the base of the tower is the airplane?



$x \approx 348.51$ ft.

24) The area of a square garden is 25 square meters. The gardener is going to put a fence on the diagonal. How much fence does she need?



$5\sqrt{2}$ m or 7.07 m