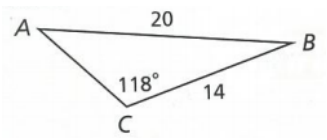
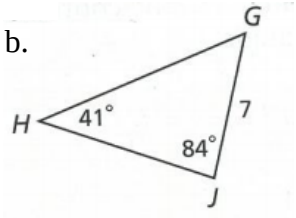
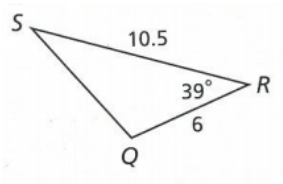
Name: Date: Period:

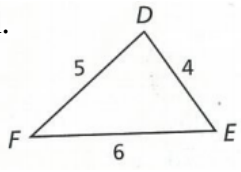
OPTIONAL Practice Test

1. Determine whether the Law of Sines or the Law of Cosines should be used to solve the triangle. (don't solve the triangle!)

a. 

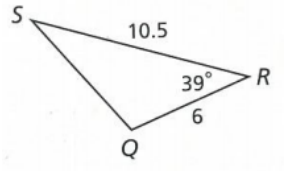
b. 

c. 

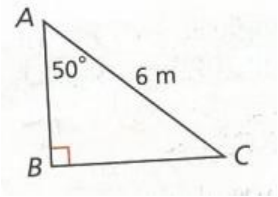
d. 

2. List the four sets of Pythagorean Triples we saw this chapter.

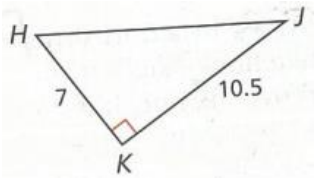
3. Find the area of the triangle. Round to three decimal places, if necessary.



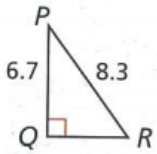
4. Solve the triangle. Round to three decimal places, if necessary.



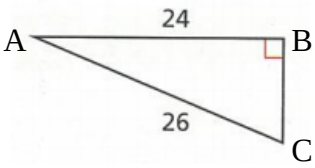
5. Find $m\angle J$. Round to three decimal places, if necessary.



6. Find $m\angle R$. Round to three decimal places, if necessary.

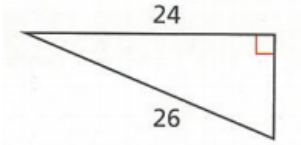


7. Find $m\angle A$. Round to three decimal places, if necessary.

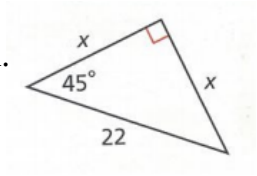


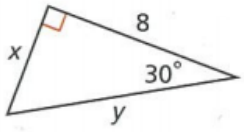
8. The legs of a right triangle are 9 ft and 17 ft. Find the length of the hypotenuse (EXACT answers only)

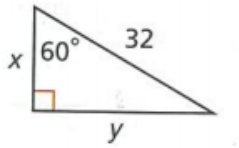
9. Find the length of the missing side. (HINT: the triangle forms a Pythagorean Triple!)



10. Find the values of x and y in each triangle. (EXACT answers only)

a. 

b. 

c. 

11. Consider a 30-60-90 right triangle. Find the following (EXACT answers only):

a. tan (30°) = _____

b. sin (30°) = _____

c. cos (30°) = _____

12. Consider a 45-45-90 right triangle. Find the following (EXACT answers only):

a. tan (45°) = _____

b. cos (45°) = _____

13. Given are three side lengths of a triangle. Determine whether the triangle is acute, right, or obtuse.

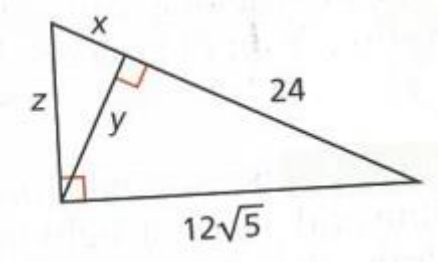
a. 18, 20, 27

b. 2, 3.7, 4.1

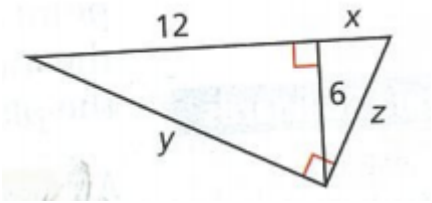
c. 8, $2\sqrt{33}$, 14

14. Find the geometric mean of 5 and 12 (EXACT answers only)

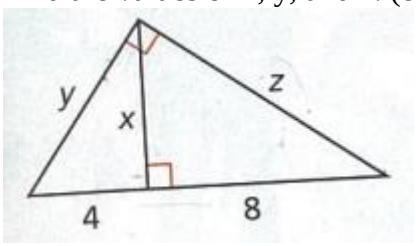
15. Find the values of x, y, and z. (exact answers only)



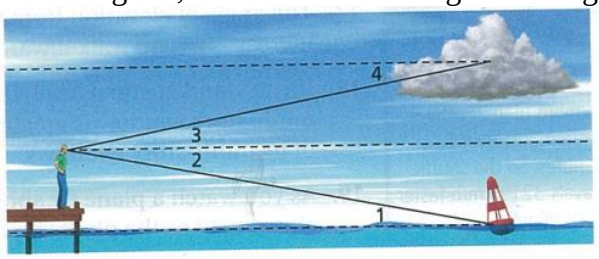
16. Find the values of x, y, and z. (exact answers only)



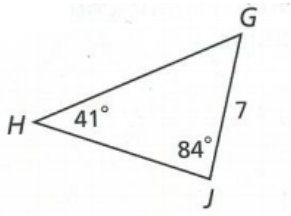
17. Find the values of x, y, and z. (exact answers only)



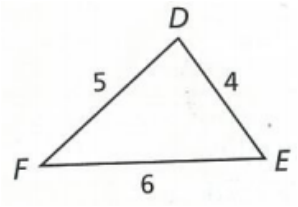
18. In the diagram, determine which angles are angles of elevation and which angles are angles of depression.



19. Find HJ. Round to two decimal places.



20. Find $m\angle E$. Round to two decimal places.



21. Find the perimeter of an isosceles triangle with a base angle measure of 54° and a base length of 18 ft. Round to two decimal places.

22. The wheelchair ramp at the entrance of the Mission Bay Library has a slope of $\frac{1}{18}$. What angle does the ramp make with the sidewalk? Round to two decimal places.

23. To measure the height of a rock formation, a surveyor places her transit 100m from its base and focuses the transit on the top of the formation. The angle is elevation is 67°. The transit is 1.5m above the ground. What is the height of the rock formation? Round to two decimal places.

24. A pilot of a traffic helicopter sights an accident at an angle of depression of 18°. The helicopter's altitude is 1560 ft. What is the horizontal distance from the helicopter to the accident? Round to two decimal places.