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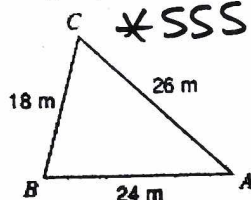
Period:

HW #9-11: Test Review Worksheet



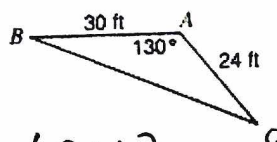
Determine whether the Law of Sines or the Law of Cosines should be used to solve the triangle. (don't solve the triangle!)

a.



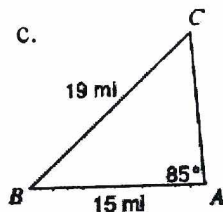
Law of
Cosines

b.



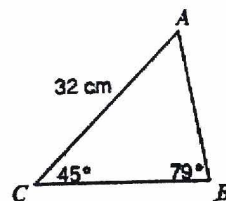
Law
of
Cosines
*SAS

c.



Law of
Sines
*SSA

d.



Law of
Sines *AAS

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

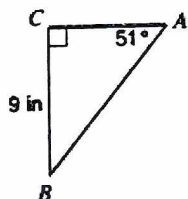
3-4-5

8-15-17

5-12-13

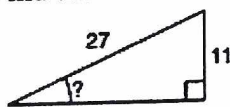
7-24-25

3. Solve the triangle. Round to two decimal places, if necessary.



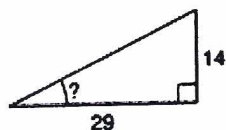
$$\begin{aligned} m\angle B &= 39^\circ \\ b &\approx 7.29 \\ c &\approx 11.58 \end{aligned}$$

4. Find the measure of the missing angle. Round to two decimal places, if necessary.



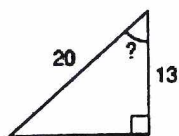
$$\approx 24.04^\circ$$

5. Find the measure of the missing angle. Round to two decimal places, if necessary.



$$\approx 25.77^\circ$$

6. Find the measure of the missing angle. Round to two decimal places, if necessary.



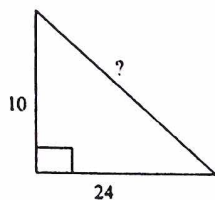
$$\approx 49.46^\circ$$



7. The legs of a right triangle are 6 ft and 10 ft. Find the length of the hypotenuse (EXACT answers only)

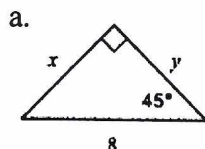
$$2\sqrt{34}$$

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



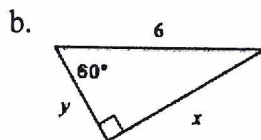
26

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



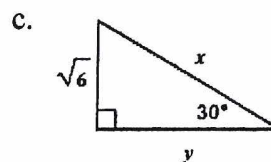
$$x = 4\sqrt{2}$$

$$y = 4\sqrt{2}$$



$$y = 3$$

$$x = 3\sqrt{3}$$



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

$$x = 2\sqrt{6}$$

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

- a. $\tan(30^\circ) = \frac{\sqrt{3}}{3}$
 b. $\tan(60^\circ) = \sqrt{3}$
 c. $\sin(30^\circ) = \frac{1}{2}$
 d. $\sin(60^\circ) = \frac{\sqrt{3}}{2}$
 e. $\cos(30^\circ) = \frac{\sqrt{3}}{2}$
 f. $\cos(60^\circ) = \frac{1}{2}$

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

- a. $\tan(45^\circ) = 1$
 b. $\sin(45^\circ) = \frac{\sqrt{2}}{2}$
 c. $\cos(45^\circ) = \frac{\sqrt{2}}{2}$

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

a. 9.6, 20.1, 18

b. 6, $2\sqrt{55}$, 17

c. 4.8, 28.6, 29

acute

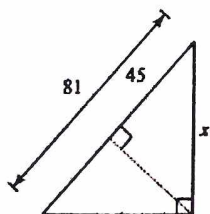
obtuse

right

13. Find the geometric mean of 3 and 21 (EXACT answers only)

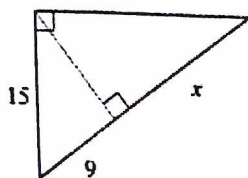
$$3\sqrt{7}$$

14. Find the value of x . (exact answer only)



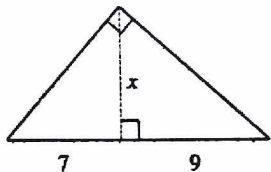
$$27\sqrt{5}$$

15. Find the value of x . (exact answer only)



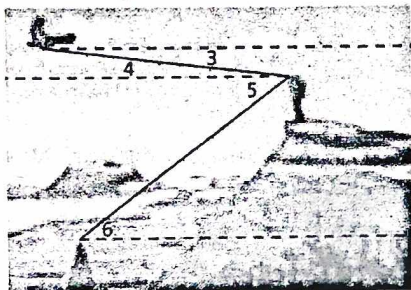
$$16$$

16. Find the value of x . (exact answer only)



$$3\sqrt{7}$$

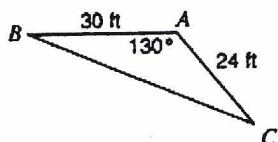
17. In the diagram, determine which angles are angles of elevation and which angles are angles of depression.



$$\angle 4 + \angle 6$$

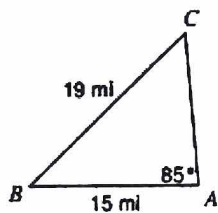
$$\angle 3 + \angle 5$$

18. Find BC . Round to two decimal places.



$$BC \approx 49.01$$

19. Find $m\angle C$. Round to two decimal places.



$$m\angle C \approx 51.86^\circ$$

20. Find the perimeter of an isosceles triangle with a base angle measure of 27° and a base length of 12 ft. Round to two decimal places.

$$25.46 \text{ ft}$$

21. A 16-foot ladder leans against a building. The base of the ladder is 4 feet away from the ground. Find the measure of the angle that the ladder makes with the building. Round to two decimal places.

$$14.48^\circ$$

22. Johnny is calculating the height of the flagpole at his school. He walked 15 steps from the flagpole and each stride is 1.5 feet wide. The angle of elevation to the top of the flagpole is 47° . Johnny's eyes are 5.5 feet from the ground. What is the approximate height of the flagpole? Round to two decimal places.

$$29.63 \text{ ft}$$

23. A wheelchair ramp is 12.8 feet long. The top of the ramp is 3 feet higher than the ground. What is the angle of elevation? Round to two decimal places.

$$13.55^\circ$$