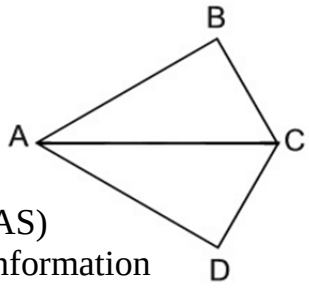
Triangles

Name_____

1. $\Delta ABC \cong \Delta A'B'C'$, $m\measuredangle C = 3x - 40$ and $m\measuredangle C' = 2x - 10$. Find $m\measuredangle C$.
[1] 15 [2] 30 [3] 50 [4] 90

1._____

2. Given: $\overline{AC}$ bisects $\measuredangle BAD$ and $\measuredangle BCD$
Which of the following methods can be used to prove $\Delta ABC \cong \Delta ADC$?
[1] Side-Angle-Side (SAS) [3] Angle-Angle-Side (AAS)
[2] Angle-Side-Angle (ASA) [4] There is insufficient information to determine if the triangles are congruent.



2._____

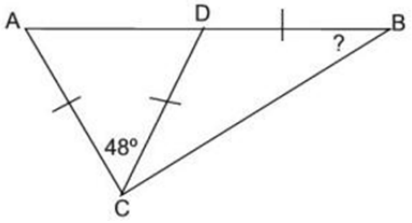
3. In triangle ABC, $m<A = 48°$, and $m<C = 24°$. What type of triangle is triangle ABC? [1] acute [2] right [3] obtuse [4] isosceles

3._____

4. Two sides of an isosceles triangle measure 3 and 7. Which of the following could be the measure of the third side? [1] 9 [2] 7 [3] 5 [4] 3

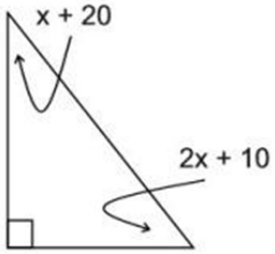
4._____

5. In the diagram at the right, $\overline{AC} \cong \overline{DC} \cong \overline{DB}$. If the $m<ACD = 48$, find the $m<B$.
[1] 24° [3] 48°
[2] 33° [4] 66°



5._____

6. The diagram at the right shows a right triangle with representations for two angles. What is the value of x?
[1] 15 [2] 20 [3] 24 [4] 30

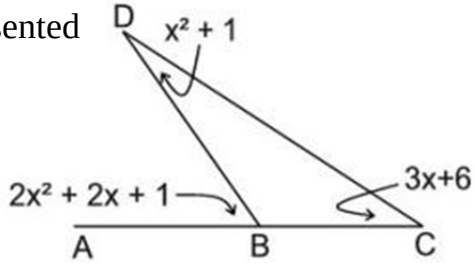


6._____

7. The midpoints of the sides of triangle ABC are labeled D, E and F. If the perimeter of triangle DEF is 24, find the perimeter of triangle ABC.
[1] 48 [2] 72 [3] 96 [4] 120

7._____

8. In the diagram at the right, the angles are represented as shown. Find the $m<DBC$.
[1] 25° [3] 155°
[2] 125° [4] 158°



8._____

9. The vertex angle of an isosceles triangle measures eight times the measure of a base angle. Find the measure of a base angle.

[1] 18° [2] 24° [3] 36° [4] 43°

9._____

10. The sides of a triangle are 5, 6 and 10. Find the length of the longest side of a similar triangle whose shortest side is 15.

[1] 10 [2] 15 [3] 18 [4] 30

10._____

11. A frisbee lands on the top of a 15' concrete wall. To retrieve the frisbee, a ladder must be placed such that the foot of the ladder is 6 feet from the base of the wall and the top of the ladder rests on the top of the wall. Which choice is the shortest length ladder that can be used?

[1] 15' [2] 16' [3] 17' [4] 18'

11._____

12. In triangle ABC, $m\angle A = 60$ and $m\angle B = 40$. Which side of triangle ABC is the longest?

[1] $\overline{AC}$ [2] $\overline{AB}$ [3] $\overline{BC}$ [4] $\overline{BC} \cong \overline{AB}$

12._____

13. At a certain time of the day, the shadow of a 5' boy is 8' long. The shadow of a nearby flagpole at this same time is 28' long. How tall is the flagpole?

[1] 8.5' [2] 16' [3] 17.5' [4] 20'

13._____

14. Which of the following lengths are the sides of a right triangle?

[1] 2.4, 3.2, 4 [3] 3.1, 4.2, 4.8

[2] 4.3, 4.4, 4.5 [4] All of the above.

14._____

15. *Given*: $\overline{AB} \cong \overline{DE}$ and $\measuredangle A \cong \measuredangle D$.

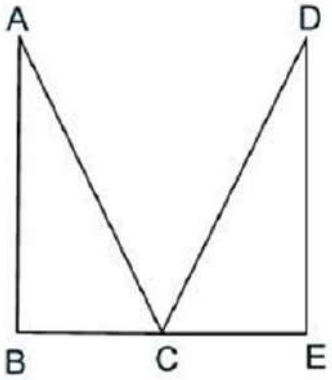
Which of the following methods can be used to prove that $\Delta ABC \cong \Delta DEC$?

[1] Side-Angle-Side (SAS)

[2] Angle-Side-Angle (ASA)

[3] Side-Side-Side (SSS)

[4] There is insufficient information to determine if the triangles are congruent.



15._____

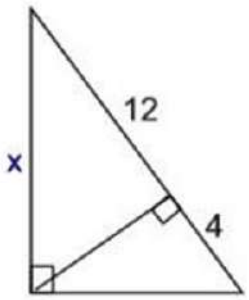
16. Find x to the *nearest tenth*.

[1] 6.9

[2] 8.0

[3] 13.9

[4] 15.0



16._____

17. In triangle ABC, $<A$ is obtuse. Which statement is true about the sum of the measures of $<B$ and $<C$?

[1] $m<B + m<C = 90$ [3] $m<B + m<C < 90$

[2] $m<B + m<C > 90$ [4] $m<B + m<C = 180$

17._____

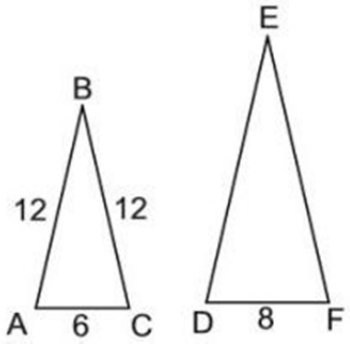
18. The legs of a right triangle measure 8 and 15. If a leg and hypotenuse of another right triangle are 8 and 17 respectively, these two right triangles are congruent.

[1] TRUE [2] FALSE

18._____

19. In the accompanying diagram, triangle ABC is similar to triangle DEF, $AC = 6$, $AB = BC = 12$, and $DF = 8$. Find the perimeter of triangle DEF.

[1] 32 [2] 36 [3] 40 [4] 60

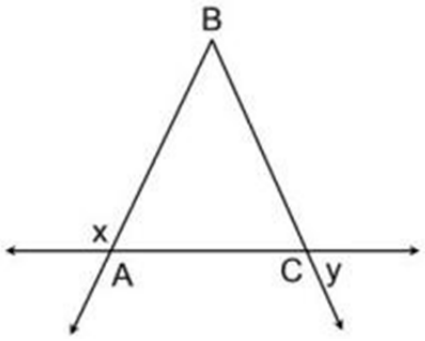


19._____

20. In the accompanying diagram, $\overline{BA} \cong \overline{BC}$ and $m\angle x = 117$. Find $m\angle y$.

[1] 117 [3] 63

[2] 110 [4] 27



20._____