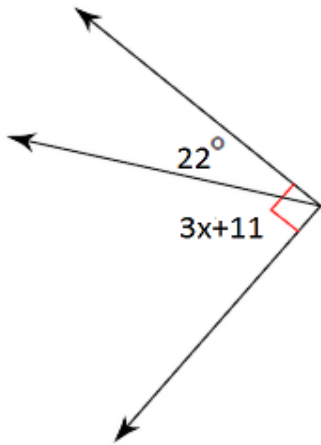


1. Locate the point on the line segment between $A(3, -5)$ and $B(13, -15)$ given that the point is $\frac{4}{5}$ of the way from A to B . Show your work.

2. Solve for x in the figure below. Show your work.

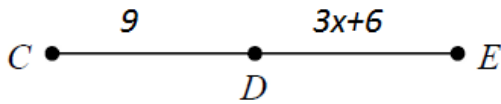


3. Find the exact area and circumference of a circle whose diameter is 8 meters. Show your work.

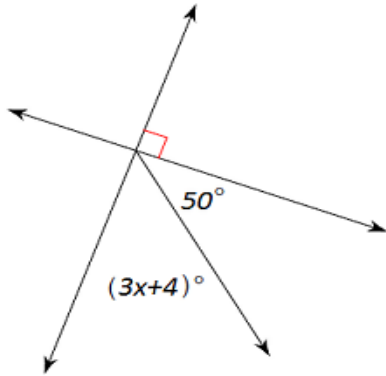
4. Briefly explain the Law of Detachment. Write a statement that is concluded using the Law of Detachment for the following statements.

If Jillian gets a raise, then she will buy a new car. Jillian got a raise.

5. Solve for x given that $CE = 36$. Show your work.



6. Solve for x in the figure below.

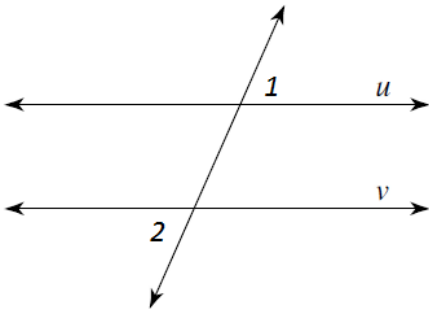


7. Are the two lines parallel, perpendicular, or neither? Explain your answer. Show work needed to answer the question.

$$3x + 7y = 15$$

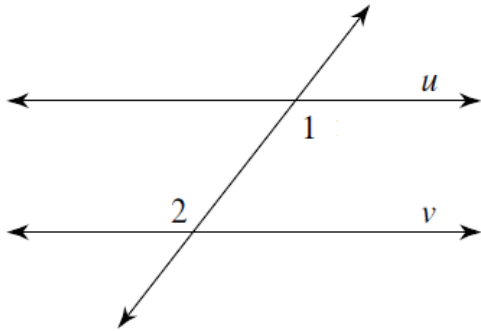
$$7x - 3y = 6$$

8. Using the figure above, which theorem can you prove, given that $m\angle 1 = m\angle 2$? Explain your answer.



9. Find the exact distance between the line $6x - y = -3$ and the point $(6,2)$. Show your work. Explain your answer.

10. Which theorem can you prove, given that $m\angle 1 = m\angle 2$ in the figure above? Explain your answer.



11. Suppose $\triangle DEF \cong \triangle WXY$. Which choice below shows corresponding parts to congruent triangles that are congruent? Explain your answer.

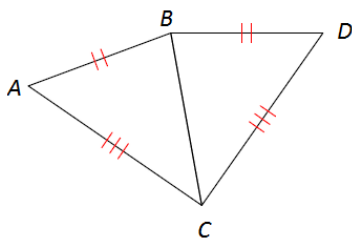
(A) $\angle E \cong \angle X$; $\overline{DF} \cong \overline{XY}$

(B) $\angle D \cong \angle Y$; $\overline{EF} \cong \overline{XY}$

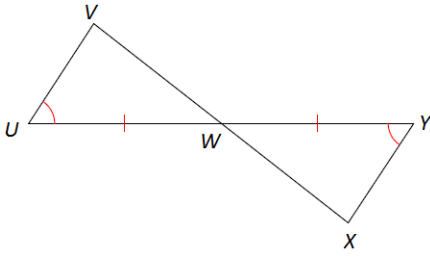
(C) $\angle E \cong \angle X$; $\overline{DF} \cong \overline{WY}$

(D) $\angle F \cong \angle X$; $\overline{DE} \cong \overline{WX}$

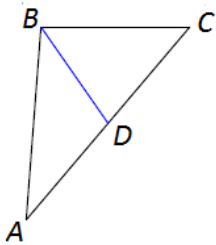
12. Determine if the triangles in the figure are congruent. If so, write the congruency statement and the reason the triangles are congruent. Explain your answer.



13. Determine if the triangles in the figure are congruent. If so, write the congruency statement and the reason the triangles are congruent. Explain your answer.

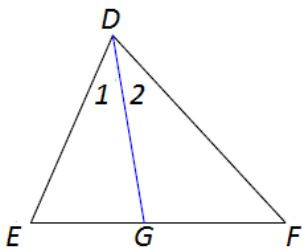


14. In the figure, \overline{BD} is a median. If $AD = 6x + 10$ and $CD = 2x + 12$, find the length of AC . Show your work.



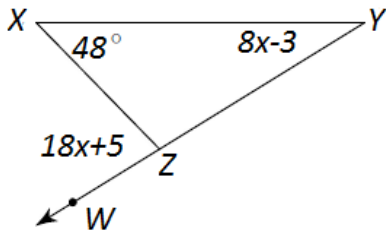
15. Where is the circumcenter of a right isosceles triangle located?

16. In the figure above, \overline{DG} is the angle bisector of $\angle FDE$. If $m\angle 1 = 7x + 4$ and $m\angle 2 = 9x - 4$, what is the measure of angle $\angle GDE$? Show your work.

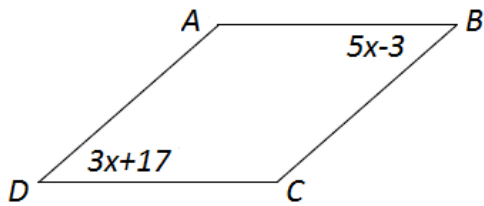


17. What is the sum of the measures of the interior angles of a dodecagon? Explain your answer.

18. Find the measure of $\angle WZX$. Show your work.



19. Quadrilateral $ABCD$ is a parallelogram. What is the measure of $\angle DAB$? Show your work.



20. What is the exact perimeter of kite $UVWX$? Show your work.

