

UNIT 4
ASSIGNMENT #27

In class Unit 4 Test Review-IN YOUR GROUPS

A. Multiple Choice (2 pts each)

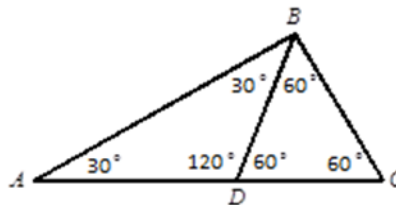
1. Name an **acute** triangle.

[A] $\triangle ABC$

[B] $\triangle ADB$

[C] $\triangle BDC$

[D] none of these



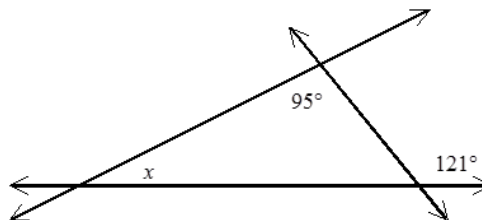
2. Find the value of x :

[A] 95°

[B] 121°

[C] 26°

[D] 154°



$$x + 95 = 121 \\ x = 26$$

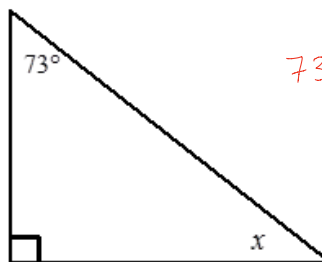
3. Find the value of x .

[A] 34°

[B] 163°

[C] 17°

[D] 107°



$$73 + 90 + x = 180 \\ 163 + x = 180 \\ x = 17$$

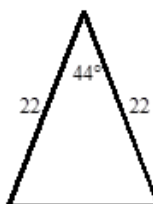
4. What is the measure of each base angle of an isosceles triangle if its vertex angle measures 44 degrees and its 2 congruent sides measure 22 units?

[A] 44°

[B] 46°

[C] 136°

[D] 68°



$$180 \\ - 44 \\ \hline 136 \div 2 = 68$$

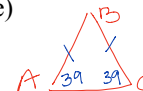
5. In $\triangle ABC$, if $\overline{AB} \cong \overline{BC}$ and $m\angle A = 39^\circ$, then $m\angle C =$ _____. (HINT: Draw the triangle)

[A] $m\angle B$

[B] 39°

[C] 141°

[D] 102°



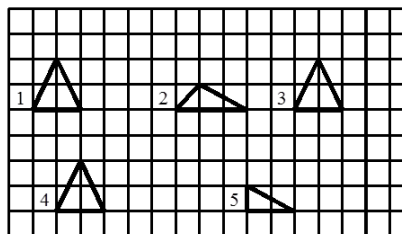
6. Which figures appear to be congruent?

[A] 3 and 4

[B] 1 and 3

[C] 1, 3, and 4

[D] 4 and 5



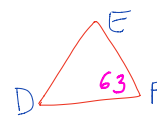
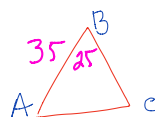
7. If $\triangle ABC \cong \triangle DEF$, $AB = 35$ feet, $m\angle B = 25^\circ$, and $m\angle F = 63^\circ$, which of the following statements is **false**? (HINT: Draw a picture)

~~[A] $AC = DF$~~

[B] $BC = DF$

~~[C] $\angle B \cong \angle E$~~

~~[D] $ED = 35$ ft.~~



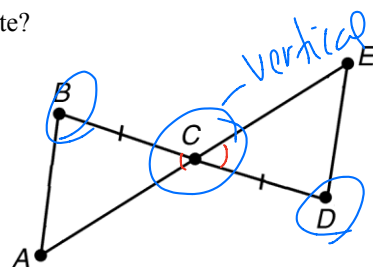
8. What must be true in order for $\triangle ABC \cong \triangle EDC$ by the ASA Congruence Postulate?

[A] $\overline{AC} \cong \overline{CE}$

[B] $\angle A \cong \angle E$

[C] $\angle B \cong \angle D$

[D] $\overline{AB} \cong \overline{DE}$



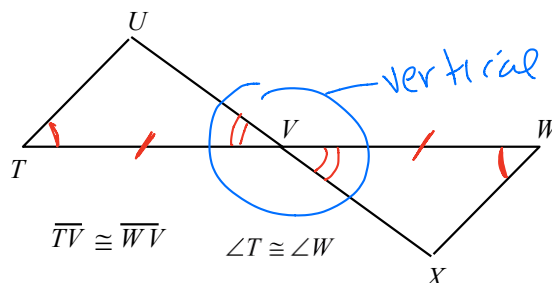
9. Refer to the figure shown. Which of the following statements is true? (Hint: Mark the given information)

[A] $\triangle TUV \cong \triangle WXV$ by SAS

[B] $\triangle TUV \cong \triangle VWX$ by SAS

[C] $\triangle TUV \cong \triangle XWV$ by ASA

[D] $\triangle TUV \cong \triangle WXV$ by ASA



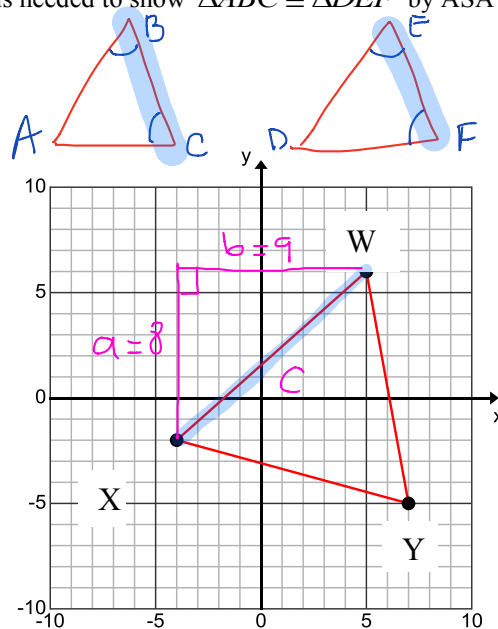
10. Given: $\angle B \cong \angle E$ and $\angle C \cong \angle F$. What other piece of information is needed to show $\triangle ABC \cong \triangle DEF$ by ASA Congruence Postulate?

[A] $\angle A \cong \angle D$

[B] $\overline{EF} \cong \overline{FE}$

[C] $\angle B = \angle F$

[D] $\overline{BC} \cong \overline{EF}$



11. What is the length of \overline{WX} in nearest tenths?

[A] 13.1

[B] 12.0

[C] 9.2

[D] 4.1

$$\begin{aligned} 8^2 + 9^2 &= c^2 \\ 64 + 81 &= c^2 \\ 145 &= c^2 \\ \sqrt{145} &= c \\ 12.0 &= c \end{aligned}$$

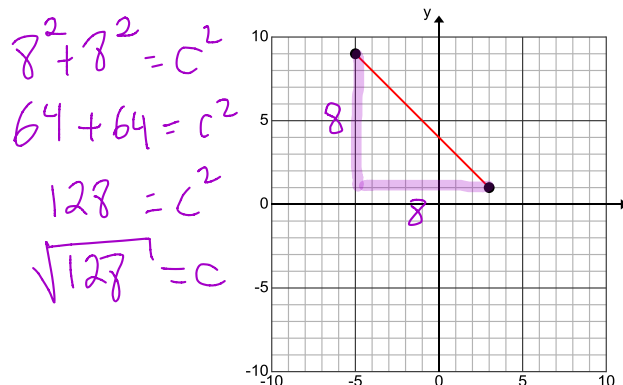
12. The diagram on right, what is the distance between two points?

[A] $\sqrt{53}$

[B] $\sqrt{128}$

[C] $\sqrt{41}$

[D] $\sqrt{18}$

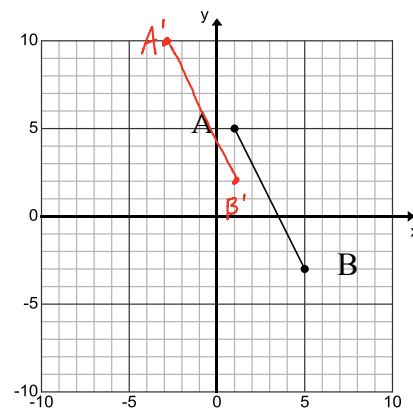


$$\begin{aligned} 8^2 + 8^2 &= c^2 \\ 64 + 64 &= c^2 \\ 128 &= c^2 \\ \sqrt{128} &= c \end{aligned}$$

B. Short Answers.

13. Segment \overline{AB} is translated by moving 4 units to the left and 5 units up. Give the coordinates of the endpoints of the image. (2 pts)

$$(x, y) \rightarrow (x-4, y+5)$$



14. Find the measures of all three angles of the triangle. (4 pts)

a. $x = 33$

b. $m\angle A = 3(33) - 49$
 $= 99 - 49 = 50$

c. $m\angle B = 2(33)$
 $= 66$

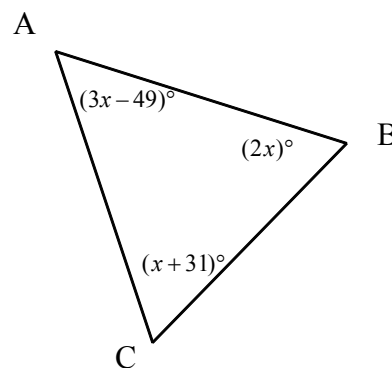
d. $m\angle C = 33 + 31$
 $= 64$

$$3x - 49 + 2x + x + 31 = 180$$

$$6x - 18 = 180$$

$$6x = 198$$

$$x = 33$$



15. Use the figure to the right.

$\triangle NLM \cong \triangle RPQ$, $m\angle R = x - 26$

- a. Find $m\angle N$ (1 pt)

$$56 - 26 = 30$$

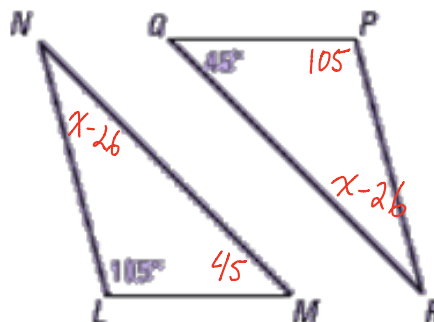
- b. Find x (2 pts)

$$x = 56$$

$$45 + 105 + x - 26 = 180$$

$$x + 124 = 180$$

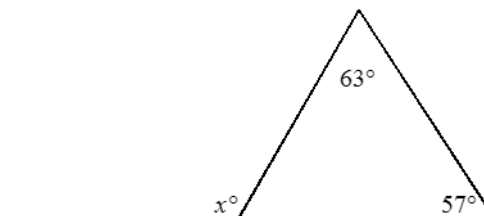
$$x = 56$$



16. Find the measure of x . (1 pt)

$$x = 63 + 57$$

$$x = 120$$



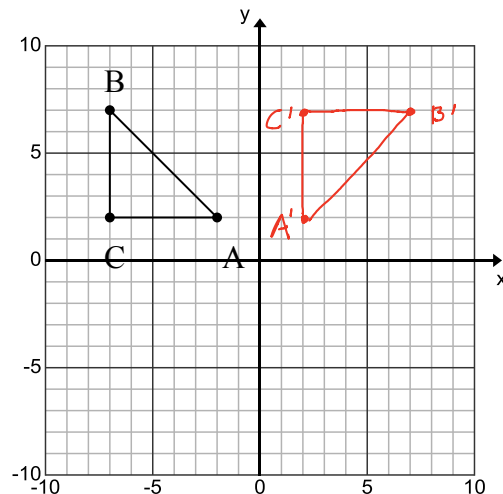
C. Open Response.

17. Use the diagram to the right to answer the questions

$A(-2, 2)$, $B(-7, 7)$, $C(-7, 2)$

- a. **State the coordinates** of the image $\Delta A'B'C'$ after ΔABC is rotated 90° clockwise about O . Show work or explain how you got your answers. (3 pts)

$$\begin{aligned} A'(2, 2) \\ B'(7, 7) \\ C'(2, 7) \end{aligned} \quad (x, y) \rightarrow (-x, y)$$



- b. Find the length of all six sides. Show work or explain how you got your answers. Round to one decimal. (6 pts)

i. $AB = \sqrt{5^2 + 5^2} = \sqrt{25 + 25} = \sqrt{50} = 7.1$

ii. $BC = 5$

iii. $AC = 5$

iv. $A'B' = 7.1$

v. $B'C' = 5$

vi. $A'C' = 5$

- c. Are the two triangles congruent? Yes (2 points)

If so by what theorem or postulate? SSS

18. **Given:** $\overline{AB} \cong \overline{DE}$; $\angle A \cong \angle D$ (4 pts)

Prove: $\Delta ACB \cong \Delta DCE$

Statements	Reasons
① $\overline{AB} \cong \overline{DE}$ $\angle A \cong \angle D$	① Given
② $\angle 1 \cong \angle 2$ OR $\angle ACB \cong \angle DCE$	② Vertical Angles
③ $\Delta ACB \cong \Delta DCE$	③ AAS

