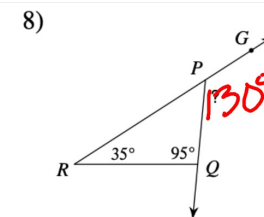
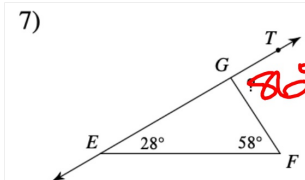
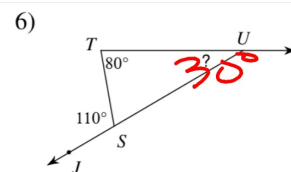
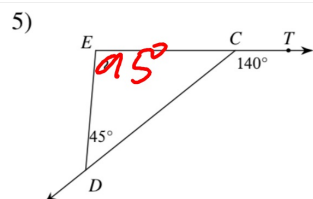
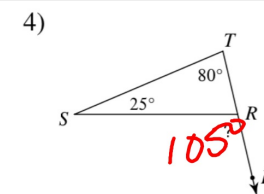
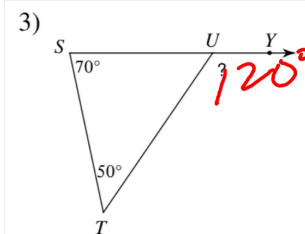
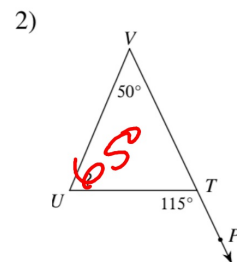
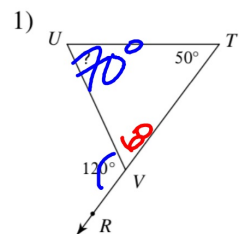
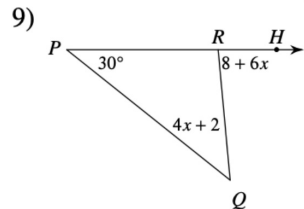


Find the measure of each angle indicated.



Solve for x .



$$\begin{aligned} 30 + 4x + 2 &= 8 + 6x \\ 32 + 4x &= 8 + 6x \\ 32 &= 8 + 2x \\ 24 &= 2x \\ x &= 12 \end{aligned}$$

10.

$$(4x + 4)(ax + 1) - x^2 + 4 = 6x$$

$$a = 1/4$$

In the expression above, a is a constant. If the expression is equivalent to bx , where b is a constant, what is the value of b ?

- A) -5
B) -3
C) 0
D) 12

$$\begin{aligned} & a x^2 + 6x + 4 \\ & (4x + 4)(\frac{1}{4}x - 1) - x^2 + 4 \\ & \cancel{1x^2} - 4x + 1x - 4 - x^2 + 4 \\ & -3x \end{aligned}$$

11. If $2w + 4t = 14$ and $4w + 5t = 25$, what is the value of $2w + 3t$?

- A) 6
B) 10
C) 13
D) 17

$$\begin{aligned} 2w + 4t &= 14 \\ 4w + 5t &= 25 \\ \hline 4w + 8t &= 28 \\ -4w + 5t &= 25 \\ \hline 3t &= 3 \\ t &= 1 \\ w &= 5 \end{aligned}$$

Properties of a triangle

Student Activity Sheet 4; Exploring "Isosceles triangle conjectures"

Page 1 of 2

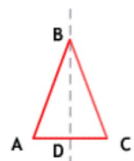
1. In the Patty Paper activity, what kind of triangle did you create? How do you know?

This was an isos. Δ b/c one of the sides is a refl. of the other side and we know refl. preserves the shape/size. Therefore, at least two sides were $\cong$.

2. What is the name of the angle of an isosceles triangle formed by rays containing the two congruent sides of the triangle?

The vertex $\angle$.

3. Use your Patty Paper exploration to help you decide if each statement is true or false for any triangle ABC.



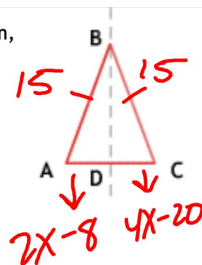
☒	$AC = AB = BC$	☒	$\overline{BD}$ is $\perp$ bisector of $\overline{AC}$
☒	$\triangle ABD \cong \triangle CBD$	☒	$\overline{BD}$ bisects $\angle ABC$
☒	$m\angle BAC = m\angle BCA$	☒	$AD = \frac{1}{2}(AB)$

4. List three conjectures about isosceles triangles.

- The base of an isosceles $\triangle$ are $\cong$.
- The segment from the vertex to the midpt of the base of an isos: ① is $\perp$ to the base and bisects the vertex $\angle$. ② divides the isos. $\triangle$ into two $\cong$ $\triangle$ s.

5. **REINFORCE** In $\triangle ABC$, suppose $AB = 15$ cm, $BC = 15$ cm, $AD = 2x - 8$ cm, and $DC = 4x - 20$ cm. Solve for x .

$$\begin{aligned} 2x - 8 &= 4x - 20 \\ -8 &= 2x - 20 \\ 12 &= 2x \\ x &= 6 \end{aligned}$$



6. **REINFORCE** In $\triangle ABC$ above, suppose $m\angle ABD = (x^2 - 5)^\circ$ and $m\angle CBD = 4x^\circ$. Solve for x .

$$\begin{aligned} x^2 - 5 &= 4x \\ x^2 - 4x - 5 &= 0 \\ (x - 5)(x + 1) &= 0 \\ x &= 5 \end{aligned}$$

Complete:

- Cwk #18 on Agile Mind
 - Turn in a paper copy before you leave

Hwk #27 due on Monday!

- Exterior Angle Theorem Worksheet & Agile Mind questions