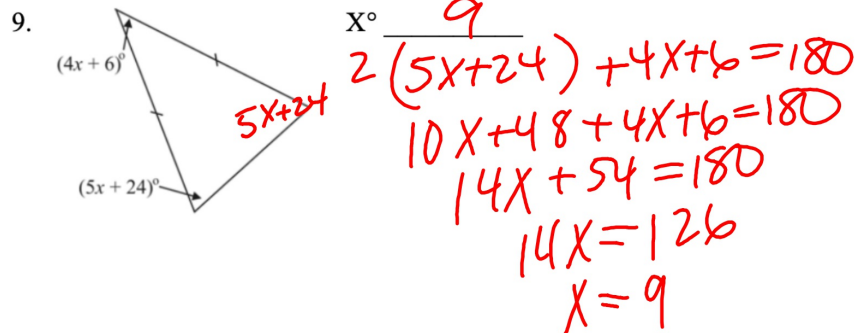
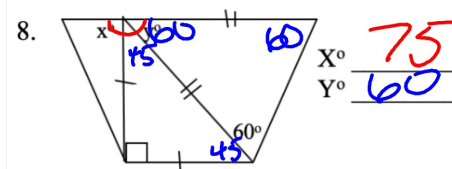


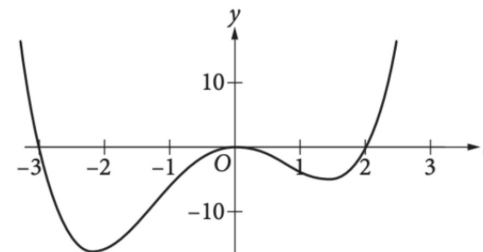
Matching:

- | | |
|-------------------------|--|
| 1. <u>C</u> Equilateral | A. One angle measuring 90° |
| 2. <u>G</u> Isosceles | B. All angles are less than 90° |
| 3. <u>E</u> Scalene | C. All sides are congruent |
| 4. <u>A</u> Right | D. One angle measuring greater than 90° |
| 5. <u>B</u> Acute | E. No sides in the triangle are congruent |
| 6. <u>F</u> Equiangular | F. All angles are congruent |
| 7. <u>D</u> Obtuse | G. Two sides of the triangle are congruent |

Solve for the missing variables:



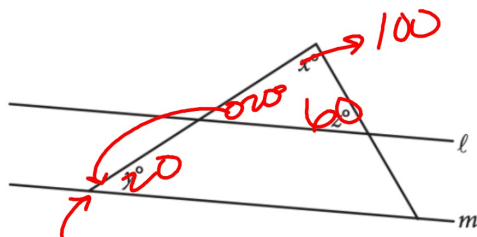
10.



Which of the following could be the equation of the graph above?

- A) $y = x(x - 2)(x + 3)$
- B) $y = x^2(x - 2)(x + 3)$
- C) $y = x(x + 2)(x - 3)$
- D) $y = x^2(x + 2)(x - 3)$

11.



Note: Figure not drawn to scale.

In the figure above, lines ℓ and m are parallel, $y = 20$, and $z = 60$. What is the value of x ?

- A) 120
- ☒ B) 100
- C) 90
- D) 80

1. In $\triangle ABC$, what is the sum of the measures of $\angle A$, $\angle B$, and $\angle C$? Explain why this is true.

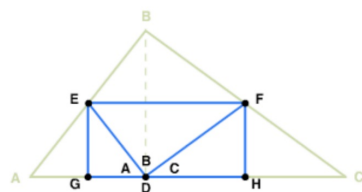
The sum of $\angle A$, $\angle B$, $\angle C$ is 180° b/c in the paper fold it formed a straight angle

2. In $\triangle ABC$, what is true about the measures of angles A and C if $\angle B$ is a right angle?

$\angle A$ and $\angle C$ are complementary b/c their sum is 90°

3. How does \overline{EF} relate to \overline{AC} ?

$$EF = \frac{1}{2} AC$$



4. How do points E and F relate to \overline{AB} and \overline{CB} ?

E is a midpt of AB
F " " " of BC

5. What is a **midsegment** of a triangle?

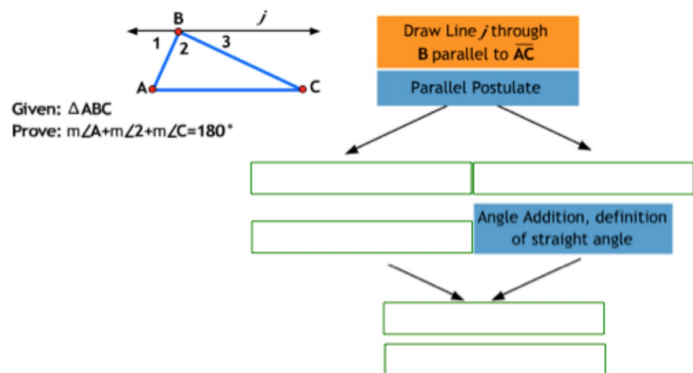
A line segment that connects the two midpts of two sides of a \triangle .

6. What does the Triangle Sum Theorem say?

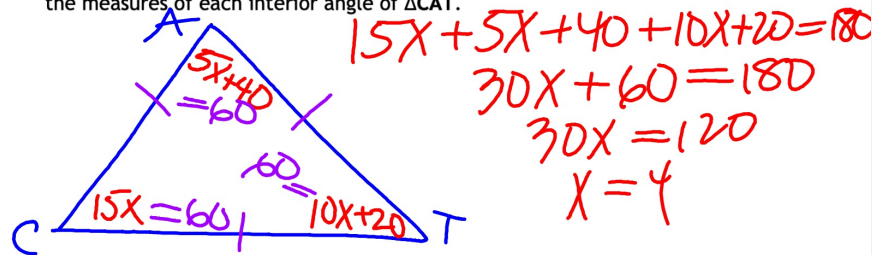
The sum of all int. angles in a \triangle is 180° .

7. Fill in the following flowchart proof of the Triangle Sum Theorem.

Substitution	$m\angle 1 + m\angle 2 + m\angle 3 = 180^\circ$	$m\angle A + m\angle 2 + m\angle C = 180^\circ$
For \parallel lines, alt. int. $\angle s \cong$	$m\angle 1 = m\angle A$, $m\angle 3 = m\angle C$	



8. REINFORCE In $\triangle CAT$, $m\angle C = (15x)^\circ$, $m\angle A = (5x + 40)^\circ$, and $m\angle T = (10x + 20)^\circ$. Find the measures of each interior angle of $\triangle CAT$.



9. REINFORCE The largest two angles of a triangle are four and five times as large as the triangle's smallest angle, respectively. $x = \text{smallest}$

a. Find the measures of all three of the triangle's angles.

Handwritten calculations:

$$4x + 5x + x = 180$$

$$10x = 180$$

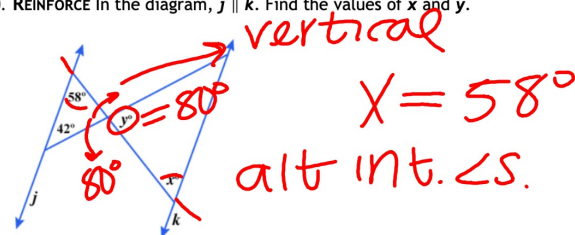
$$x = 18$$

Angles: 72° , 90° , 18°

b. What special type of triangle is this triangle?

Scalene Right

10. REINFORCE In the diagram, $j \parallel k$. Find the values of x and y .



11. REINFORCE The lengths of three sides of a triangle are $2x$, $3x - 4$, and $x + 4$. Find a value of x that makes the triangle equilateral.

Handwritten calculations:

$$2x = 3x - 4$$

$$2x = x + 4$$

$$x = 4$$

12. What is the name for two angles that have a sum of 90° ?

Two \angle s that sum to 90° are called complementary \angle s.

13. Write a conjecture about the acute angles of a right triangle.

Two acute \angle s of a rt Δ are complementary.

14. Prove your conjecture from the previous question.

Given: $\triangle QSR$ is a right triangle with a right angle at Q.

Prove: $\angle R$ and $\angle S$ are complementary.



Statements	Reasons
1. $m\angle Q = 90^\circ$	1. Given, definition of a right angle
2. $m\angle Q + m\angle R + m\angle S = 180^\circ$	2. Δ Sum Theorem
3. $90^\circ + m\angle R + m\angle S = 180^\circ$	3. Substitution Property
4. $m\angle R + m\angle S = 90$	4. Subtraction Property
5. $\angle R$ and $\angle S$ are complementary.	5. Definition of comp \angle s.

Hwk #25 - Worksheet on Triangle Inequality Theorem