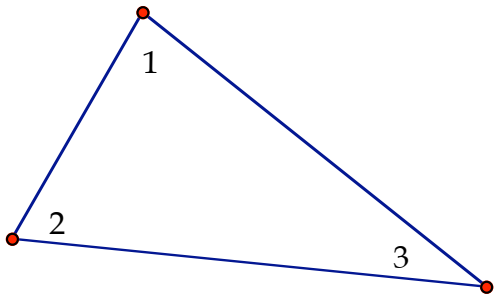
Chapter 3: Triangles / Polygons
Lesson 3-1: Triangle Fundamentals
Classwork

name _____
date _____
period ___

Use Diagram A to answer # 1-5.

Diagram A



1. If $m\angle 1 = 28°$ and $m\angle 2 = 67°$, find $m\angle 3$.
2. If $m\angle 1 = 107°$ and $m\angle 3 = 37°$, find $m\angle 2$.
3. If $m\angle 2 = 34°$ and $m\angle 3 = 67°$, find $m\angle 1$.
4. If $m\angle 1 = 16°$ and $m\angle 2 = 35°$, find $m\angle 3$.
5. If $m\angle 3 = 88°$ and $m\angle 2 = 47°$, find $m\angle 1$.

Use Diagram A to answer # 6-10.

For problem #6 - 10, find x and the value of each angle.

6. If $m\angle 1 = x + 30$, $m\angle 2 = x - 23$ and $m\angle 3 = 2x - 7$.
7. If $m\angle 1 = 9x$, $m\angle 2 = 2x$ and $m\angle 3 = 7x$
8. If $m\angle 1 = 3x + 20$, $m\angle 2 = 2x - 25$ and $m\angle 3 = 5x + 10$.
9. If $m\angle 1 = 11x + 33$, $m\angle 2 = 8x - 23$ and $m\angle 3 = x$.
10. If $m\angle 1 = 3x + 3$, $m\angle 2 = 4x - 23$ and $m\angle 3 = 2x - 10$.

Use Diagram B to answer # 11-20.

11. If m∠1=130°and m∠3=24°, find the value of each numbered angle.
12. If m∠2=38° and m∠4=100°, find the value of each numbered angle.
13. If m∠5=125° and m∠6=96°, find the value of each numbered angle.
14. If m∠4=58° and m∠3=32°, find the value of each numbered angle.
15. If m∠2=11° and m∠3=143°, find the value of each numbered angle.
16. If m∠2=2x, m∠3=5x, and m∠4=3x+120, find the value of x and of each numbered angle.
17. If m∠1=x+30, m∠4=5x-14, and m∠3=3x+20, find the value of x and of each numbered angle.
18. If m∠2=2x-35, m∠1=3x, and m∠6=7x-120, find the value of x and of each numbered angle.
19. If m∠1=3x-24, m∠3=5x+44, and m∠5=116°, find the value of x and of each numbered angle.
20. If m∠4=5x, m∠5=4x, and m∠6=3x, find the value of x and of each numbered angle.

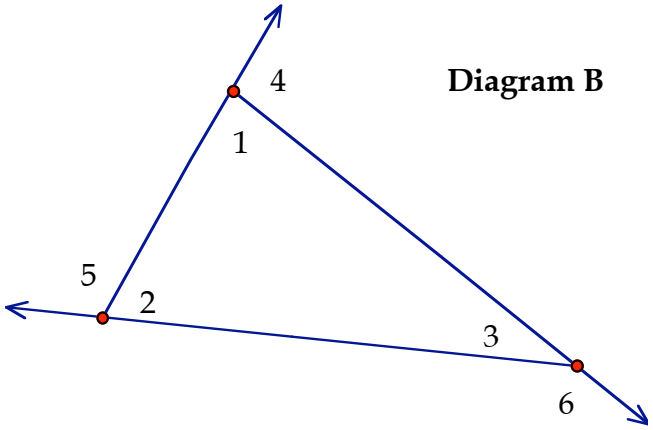


Diagram B

Complete.

21. The altitude of a triangle is _____ to the side to which it is drawn.

22. A median of a triangle is a line segment which joins any vertex of a triangle to the _____ of the opposite side.

21. In $\triangle ABC$, construct the altitude from A.

22. In $\triangle ABC$, construct the median from A.