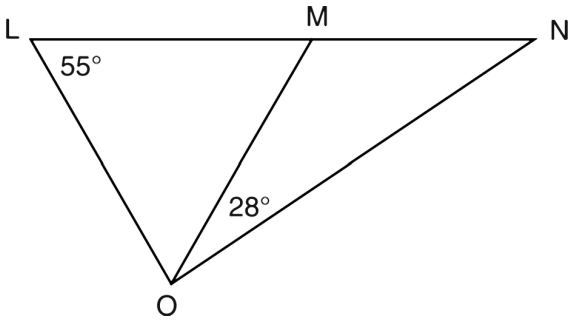
Triangle angles

Name: _____ **Date:** _____

1. The measure of the vertex angle of an isosceles triangle is 70. Find the measure of a base angle of the triangle.

2. If one of the base angles of an isosceles triangle has a measure of 54, find the measure of the vertex angle.

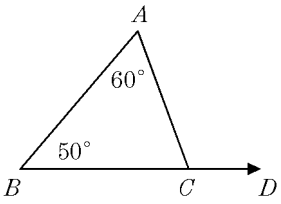
3. In the diagram below, $\triangle LMO$ is isosceles with $LO = MO$.



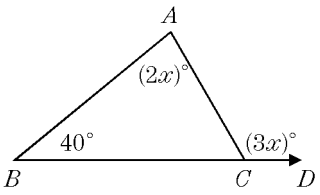
If $m\angle L = 55$ and $m\angle NOM = 28$, what is $m\angle N$?

A. 27 B. 28 C. 42 D. 70

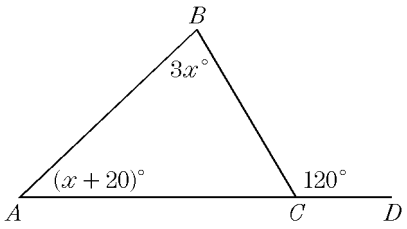
4. In the accompanying diagram, $\angle ACD$ is an exterior angle of $\triangle ABC$. If $m\angle A = 60$ and $m\angle B = 50$, find $m\angle ACD$.



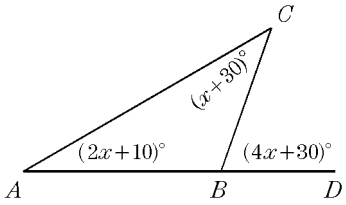
5. In the accompanying diagram, $\angle ACD$ is an exterior angle of $\triangle ABC$. If $m\angle B = 40$, $m\angle A = 2x$, and $m\angle ACD = 3x$. What is the value of x?



6. In the accompanying diagram, $m\angle A = x + 20$, $m\angle B = 3x$, $\angle BCD$ is an exterior angle formed by extending $\overline{AC}$ to point D, and $m\angle BCD = 120$. Find the value of x.

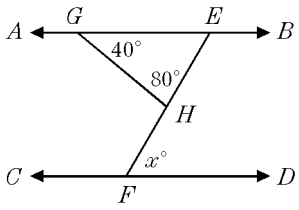


7. In the accompanying diagram of $\triangle ABC$, side $\overline{AB}$ is extended to D. If $m\angle ACB = x + 30$, $m\angle CAB = 2x + 10$, and $m\angle CBD = 4x + 30$, what is the value of x?

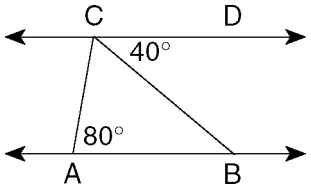


8. In $\triangle ABC$, $\overline{AC}$ is extended through C to D. If $m\angle BAC = 6x + 10$, $m\angle ABC = 6x - 10$, and $m\angle BCD = 8x + 20$, find x.

9. In the accompanying diagram, $\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}$, $\overline{EF}$ intersects $\overleftrightarrow{AB}$ at E and $\overleftrightarrow{CD}$ at F, and $\overline{GH}$ intersects $\overleftrightarrow{AB}$ at G and $\overline{EF}$ at H. If $m\angle EGH = 40$, $m\angle GHE = 80$, and $m\angle EFD = x$, what is the value of x?



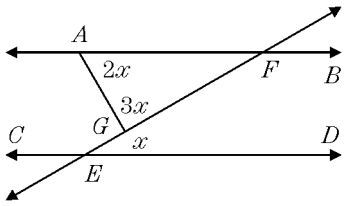
10. In the accompanying diagram, $\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}$, $m\angle CAB = 80$, and $m\angle DCB = 40$.



What is $m\angle ACB$?

A. 40 B. 60 C. 80 D. 120

11. In the accompanying figure, $\overleftrightarrow{EGF}$ intersects $\overleftrightarrow{AB}$ and $\overleftrightarrow{CD}$, and $\overline{AG}$ is drawn. If $\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}$, $m\angle FED = x$, $m\angle GAF = 2x$, and $m\angle FGA = 3x$, find x.



Triangle angles 9/25/2017

1.
Answer: 55

2.
Answer: 72

3.
Answer: A

4.
Answer: 110

5.
Answer: 40

6.
Answer: 25

7.
Answer: 10

8.
Answer: 5

9.
Answer: 60

10.
Answer: B

11.
Answer: 30