

SAT Lines, Angles, and Triangles Worksheet

Name: _____ Date: _____

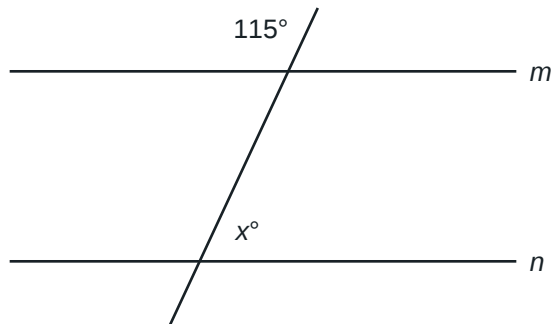
Circle one answer for each question. Use the blank space for calculations. A calculator is allowed.

1. Two angles form a linear pair. One of the angles measures 128° . What is the measure, in degrees, of the other angle?
A. 52
B. 62
C. 128
D. 232

2. In triangle ABC, the measure of angle A is 47° and the measure of angle B is 68° . What is the measure, in degrees, of angle C?
A. 43
B. 55
C. 65
D. 115

3. Two lines intersect, forming vertical angles with measures $(3x + 10)$ degrees and $(5x - 20)$ degrees. What is the value of x ?
A. 15
B. 23.75
C. 45
D. 55

4.



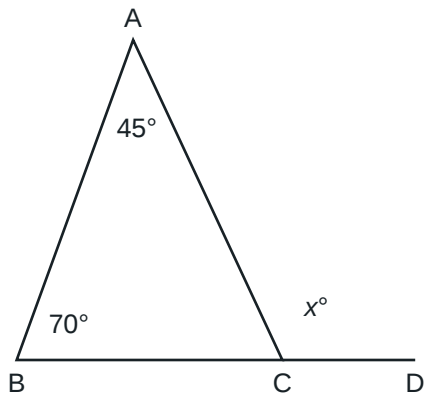
In the figure, lines m and n are parallel. What is the value of x ?

- A. 25
- B. 55
- C. 65
- D. 115

5. In triangle PQR, $PQ = PR$ and the measure of angle P is 40° . What is the measure, in degrees, of angle Q?

- A. 40
- B. 70
- C. 100
- D. 140

6.



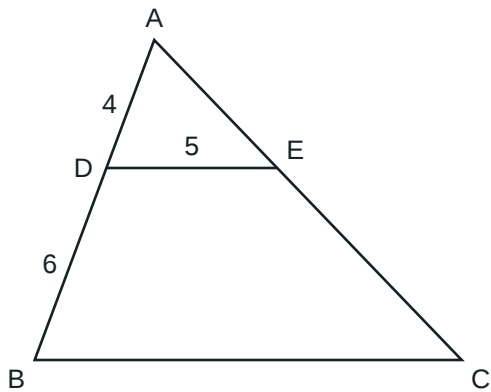
In the figure, points B, C, and D lie on a line. What is the value of x ?

- A. 45
- B. 65
- C. 70
- D. 115

7. In triangle XYZ, the measure of angle X is 20° greater than the measure of angle Y, and the measure of angle Z is twice the measure of angle Y. What is the measure, in degrees, of angle Z?

- A. 40
- B. 60
- C. 70
- D. 80

8.



In the figure, segment DE is parallel to segment BC. What is the length of BC?

- A. 7.5
- B. 11
- C. 12
- D. 12.5

9. What is the measure, in degrees, of each interior angle of a regular octagon?

- A. 108
- B. 120
- C. 135
- D. 1,080

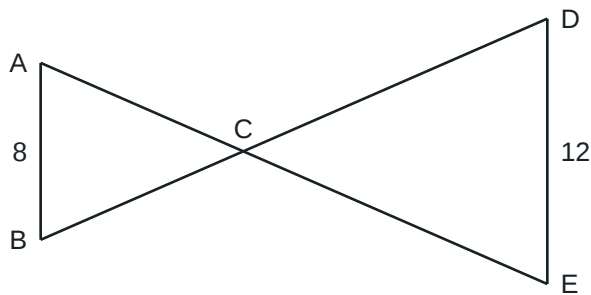
10. Two parallel lines are cut by a transversal. Two same-side interior angles have measures $(5x + 12)$ degrees and $(3x + 8)$ degrees. What is the value of x ?

- A. -2
- B. 20
- C. 68
- D. 112

11. Triangle ABC is similar to triangle DEF, with A, B, and C corresponding to D, E, and F. In triangle ABC, $AB = 5$, $BC = 7$, and $AC = 8$. The perimeter of triangle DEF is 30. What is the length of EF?

- A. 7
- B. 10.5
- C. 12
- D. 17

12.



In the figure, segment AB is parallel to segment DE , and segments AE and BD intersect at point C . If $AB = 8$, $DE = 12$, and $AE = 25$, what is the length of AC ?

- A. 10
- B. 12.5
- C. 15
- D. 16