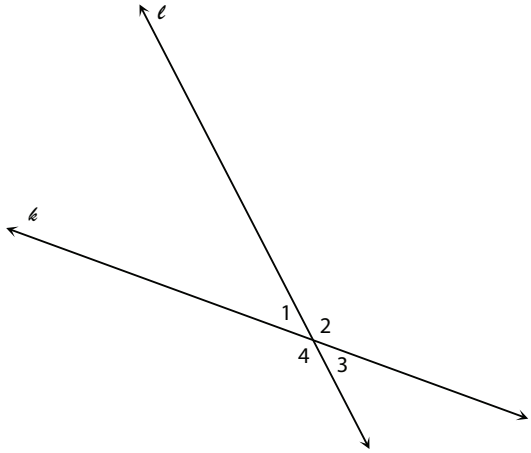
Progress Assessment

Circle the letter of the best answer.

1. If $m\angle 1 = 2x - 9$ and $m\angle 2 = 10x - 3$, find $m\angle 4$ given that lines k and ℓ intersect as shown below.



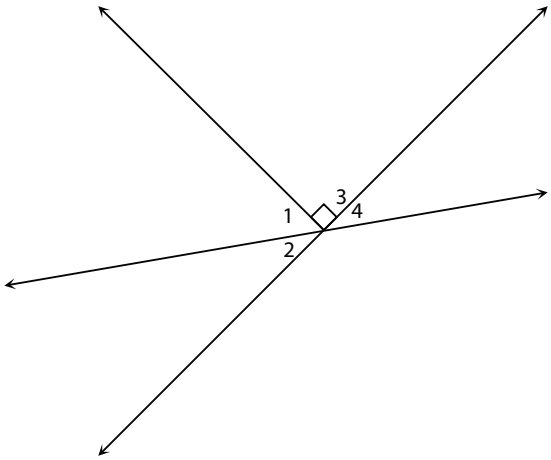
a. 157°

b. 164°

c. 16°

d. 23°

2. If $m\angle 1 = 4x$ and $m\angle 4 = 3x - 1$ in the diagram below, find $m\angle 2$ if $\angle 3$ is a right angle.



a. 142°

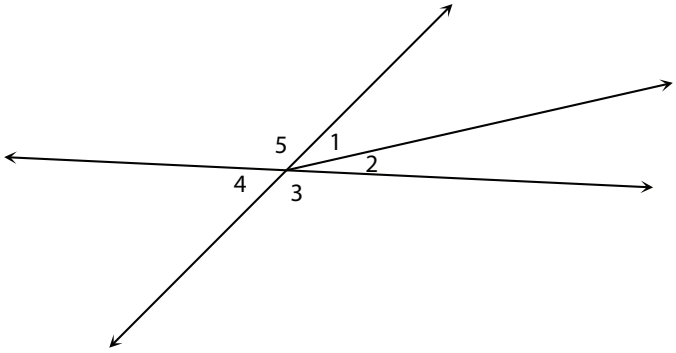
b. 52°

c. 38°

d. 27°

continued

3. If $m\angle 1 = x+7$, $m\angle 2 = 2(x+2)$, and $m\angle 4 = 2(x+13)$ in the diagram below, find $m\angle 4$.



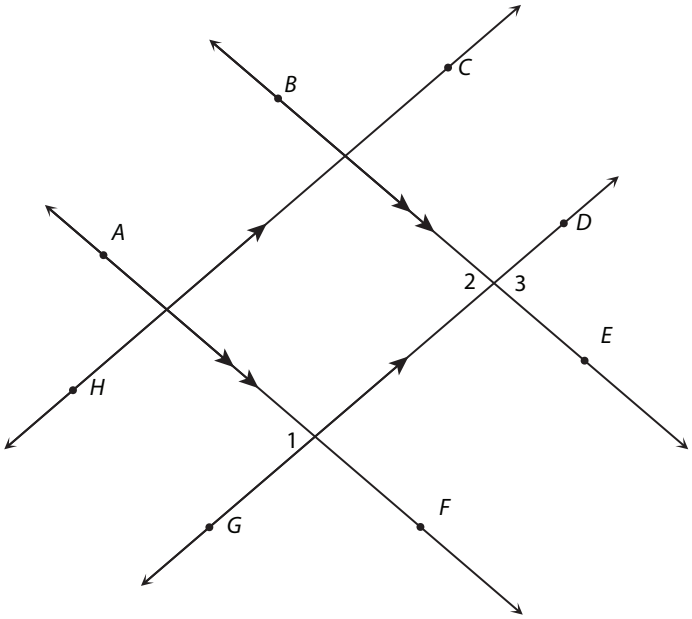
a. 22º

b. 34º

c. 47º

d. 56º

4. There are two sets of parallel lines in the diagram below. Find $m\angle 2$ if $m\angle 1 = 10x - 4$ and $m\angle 3 = 7x + 20$.



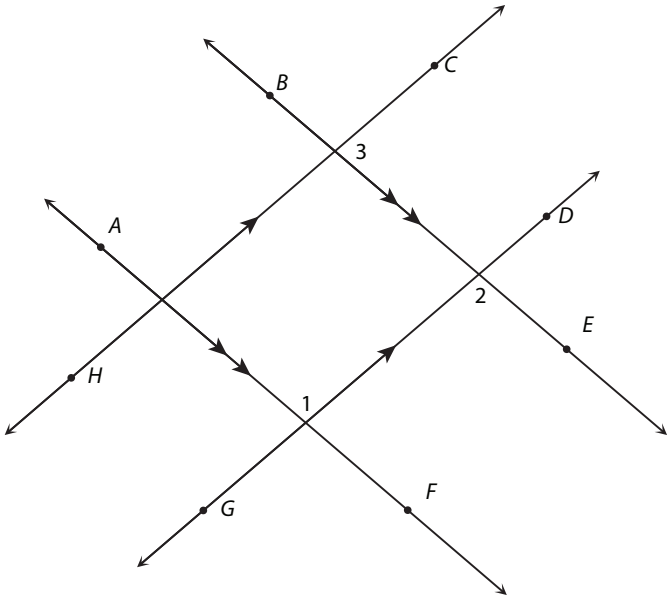
a. 14º

b. 90º

c. 76º

d. 104º

5. Find $m\angle 1$ if $m\angle 2 = 5x$ and $m\angle 3 = 6x - 7$.



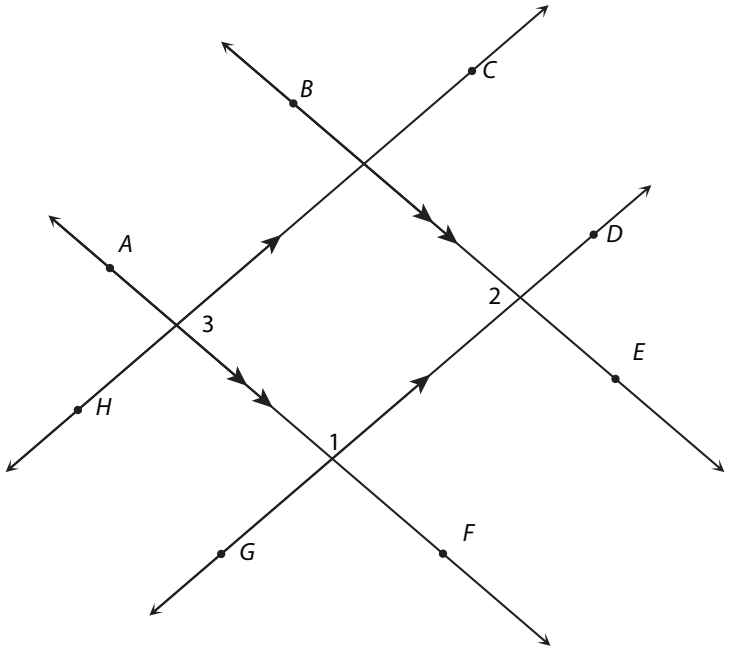
a. 75°

b. 85°

c. 95°

d. 105°

6. Find $m\angle 2$ if $m\angle 1 = 5x + 12$ and $m\angle 3 = 4x - 12$.



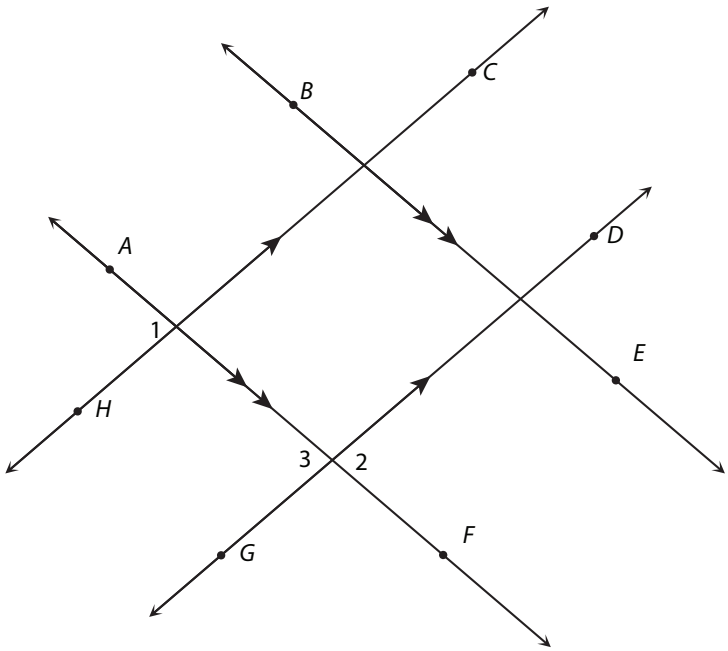
a. 112°

b. 20°

c. 180°

d. 68°

7. Find $m\angle 3$ if $m\angle 1 = 3x+1$ and $m\angle 2 = 2(x+7)$.



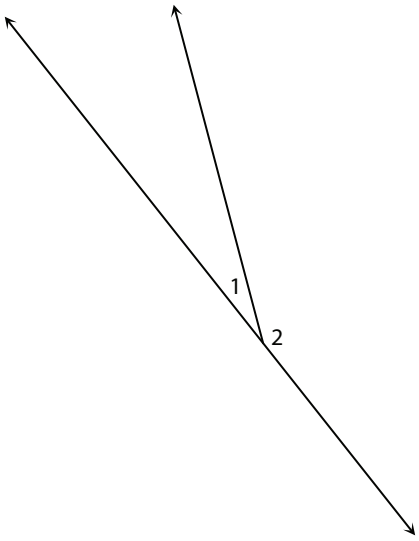
a. 40°

b. 50°

c. 90°

d. 140°

8. In the diagram below, $\angle 1$ and $\angle 2$ are a linear pair. Find $m\angle 1$ if $m\angle 1 = 2x-9$ and $m\angle 2 = 10x+9$.



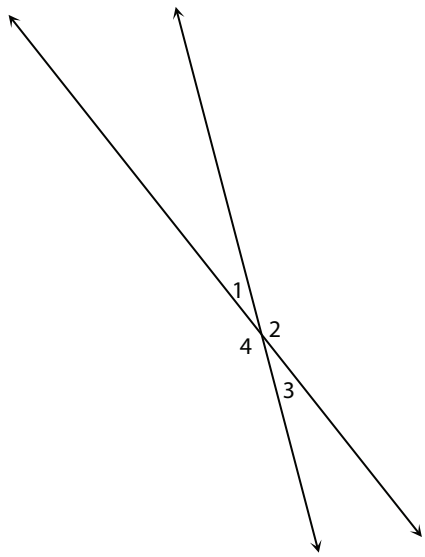
a. 17°

b. 159°

c. 163°

d. 21°

9. Find $m\angle 4$ in the diagram below if $m\angle 2 = 9(x+6)$ and $m\angle 4 = 2(5x+21)$.



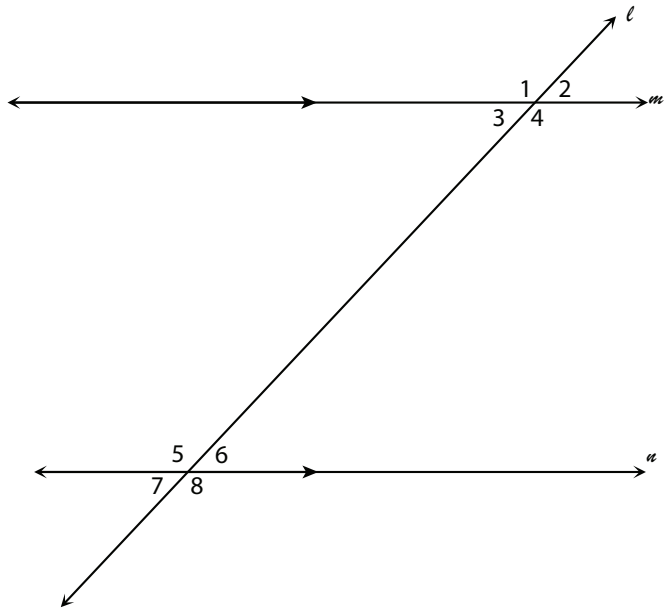
a. 18°

b. 157°

c. 162°

d. 12°

10. In the diagram below, ℓ is the transversal of the parallel lines m and n. Find $m\angle 3$ if $m\angle 4 = 5(x+11)$ and $m\angle 5 = 11x - 17$.



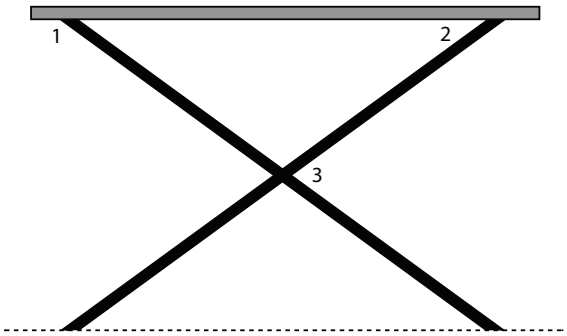
a. 115°

b. 65°

c. 78°

d. 12°

Use the following diagram of a table to complete problem 11. The floor is represented by a dashed line.



11. What is $m\angle 3$ given that the tabletop is parallel with the floor, $m\angle 1 = 134$, and $m\angle 2 = 46$? Draw a diagram and justify your reasoning.