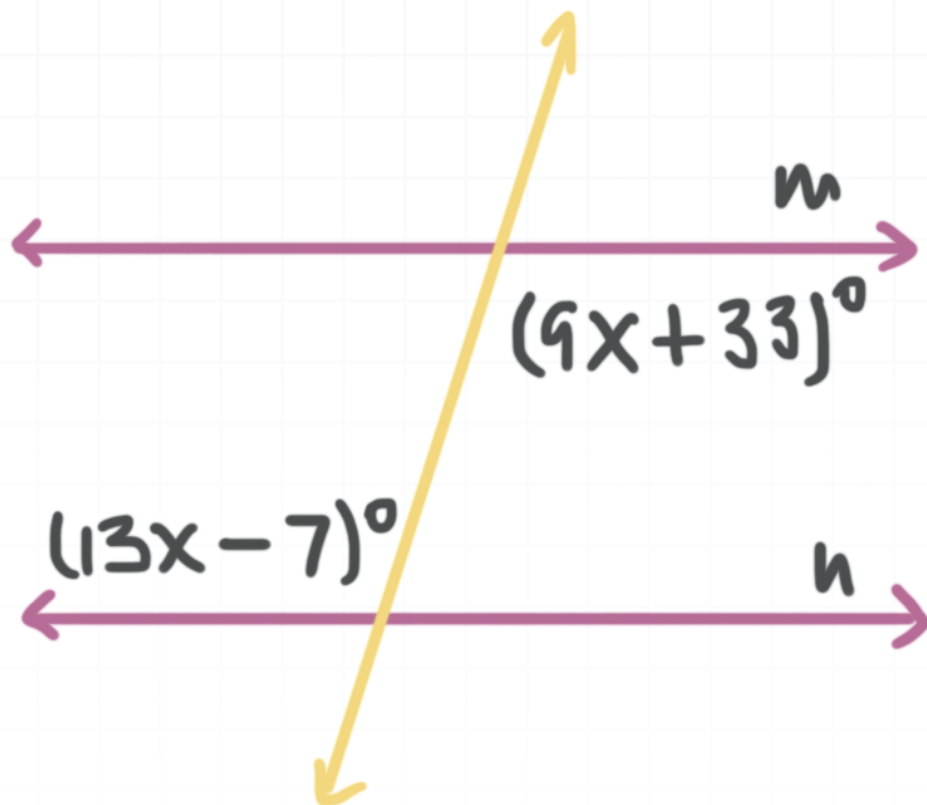


Topic: Angles and transversals**Question:** Find x , given that $m \parallel n$.**Answer choices:**

- A 5
- B 6
- C 8
- D 10



Solution: D

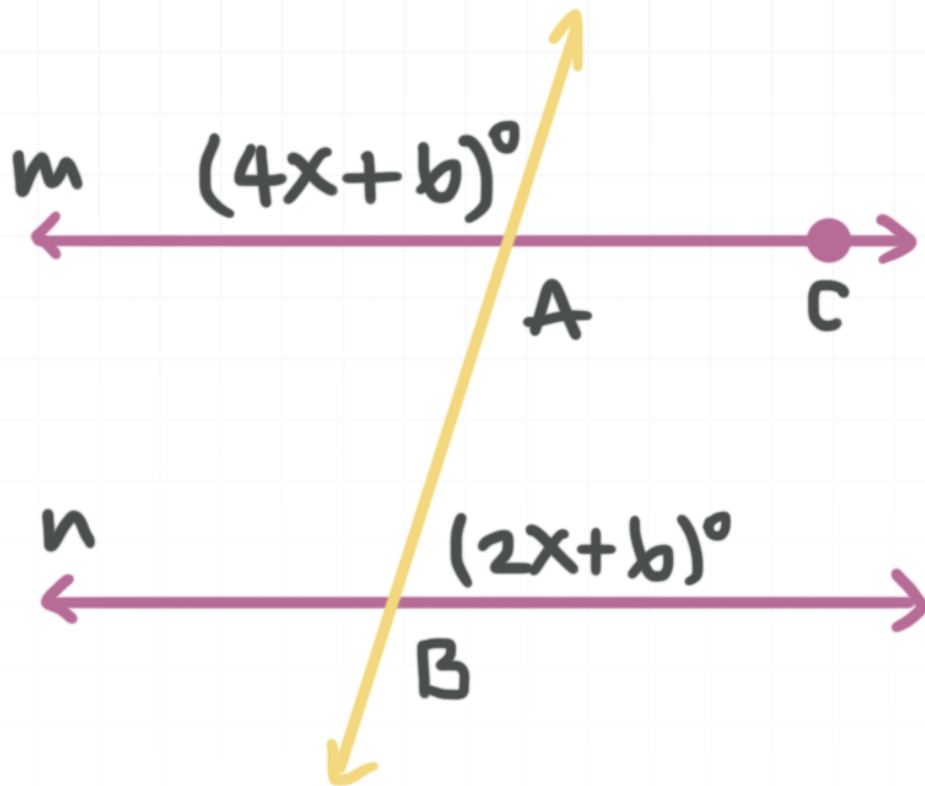
When parallel lines intersect a transversal, alternate interior angles are congruent. The angles of measure $(13x - 7)^\circ$ and $(9x + 33)^\circ$ are a pair of vertical angles, so they're congruent.

$$13x - 7 = 9x + 33$$

$$4x = 40$$

$$x = 10$$



Topic: Angles and transversals**Question:** Find x , given that $m \parallel n$.**Answer choices:**

- A 28
- B 32
- C 36
- D 40



Solution: A

Angle BAC and the angle of measure $(4x + 6)^\circ$ are a pair of vertical angles, so they're congruent.

$$m\angle BAC = (4x + 6)^\circ$$

When parallel lines intersect a transversal, consecutive interior angles are supplementary. Angle BAC and the angle of measure $(2x + 6)^\circ$ are a pair of consecutive interior angles. Therefore,

$$(4x + 6) + (2x + 6) = 180$$

$$6x + 12 = 180$$

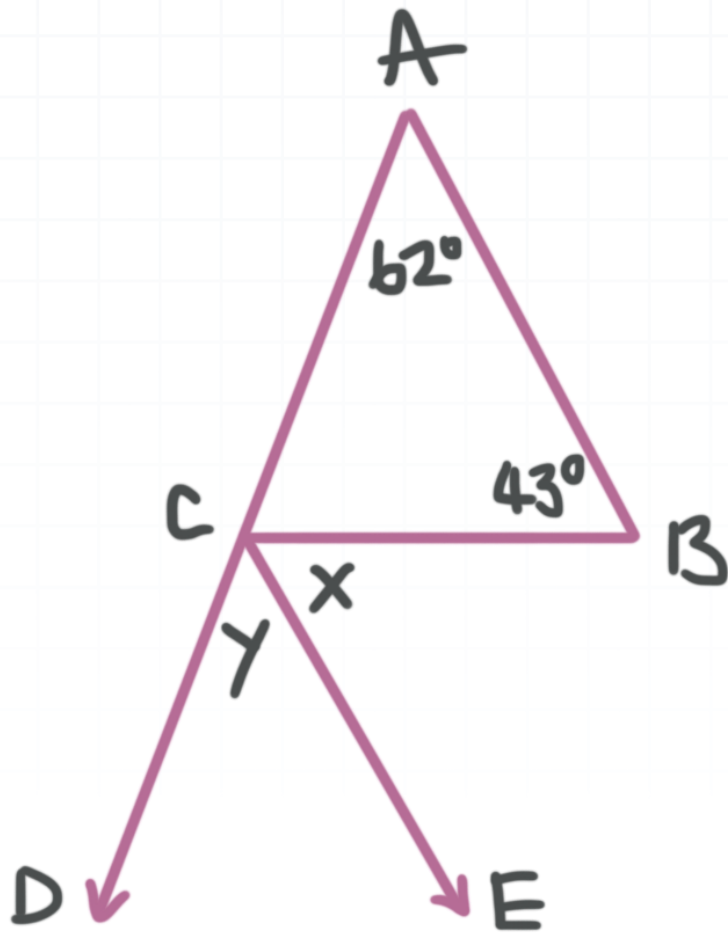
$$6x = 168$$

$$x = 28$$



Topic: Angles and transversals

Question: Given that $\overline{AB} \parallel \overline{CE}$, find the value of $y - x$, where both x and y are in degrees.



Answer choices:

- A 11°
- B 15°
- C 19°
- D 21°



Solution: C

When parallel lines intersect a transversal, alternate interior angles are congruent. Angles BCE and ABC are a pair of alternate interior angles. Therefore,

$$m\angle BCE = m\angle ABC$$

$$x = 43^\circ$$

When parallel lines intersect a transversal, corresponding angles are congruent. Angles DCE and CAB are a pair of corresponding angles. Therefore,

$$m\angle DCE = m\angle CAB$$

$$y = 62^\circ$$

So we see that

$$y - x = 62^\circ - 43^\circ$$

$$y - x = 19^\circ$$

