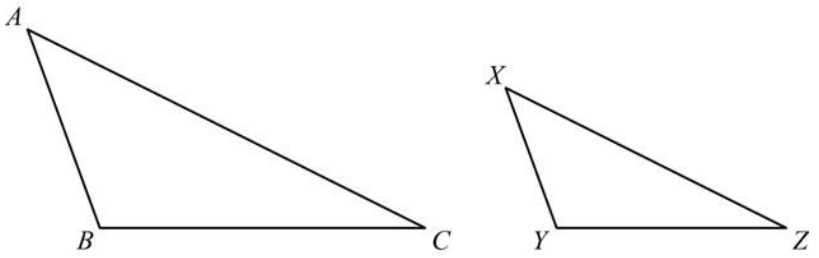
SAMPLE ITEMS

1. In the triangles shown, $\triangle ABC$ is dilated by a factor of $\frac{2}{3}$ to form $\triangle XYZ$.

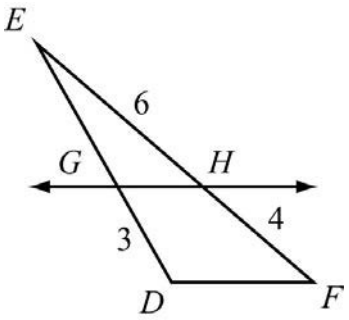


Given that $m\angle A = 50°$ and $m\angle B = 100°$, what is $m\angle Z$?

A. 15°
B. 25°
C. 30°
D. 50°

Correct Answer: C

2. In the triangle shown, $\overleftrightarrow{GH} \parallel \overline{DF}$.

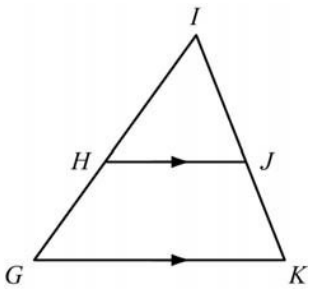


What is the length of $\overline{GE}$?

A. 2.0
B. 4.5
C. 7.5
D. 8.0

Correct Answer: B

3. Use this triangle to answer the question.



This is a proof of the statement "If a line is parallel to one side of a triangle and intersects the other two sides at distinct points, then it separates these sides into segments of proportional lengths."

Step	Statement	Justification
1	$\overline{GK}$ *is parallel to* $\overline{HJ}$.	Given
2	$\angle HGK \cong \angle IHJ$ $\angle IKG \cong \angle IJH$	**?**
3	$\triangle GIK \sim \triangle HIJ$	AA Similarity
4	$\frac{IG}{IH} = \frac{IK}{IJ}$	Corresponding sides of similar triangles are proportional.
5	$\frac{HG + IH}{IH} = \frac{JK + IJ}{IJ}$	Segment Addition Postulate
6	$\frac{HG}{IH} = \frac{JK}{IJ}$	Subtraction Property of Equality

Which reason justifies Step 2?

A. Alternate interior angles are congruent.
B. Alternate exterior angles are congruent.
C. Corresponding angles are congruent.
D. Vertical angles are congruent.

Correct Answer: C