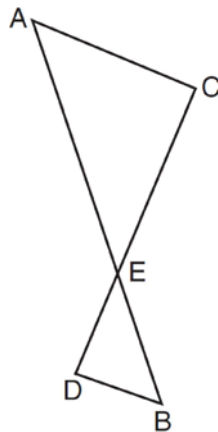


G.SRT.B.5: Similarity 1

- 1 The ratio of similarity of $\triangle BOY$ to $\triangle GRL$ is 1:2. If $BO = x + 3$ and $GR = 3x - 1$, then the length of \overline{GR} is
- 1) 5
 - 2) 7
 - 3) 10
 - 4) 20

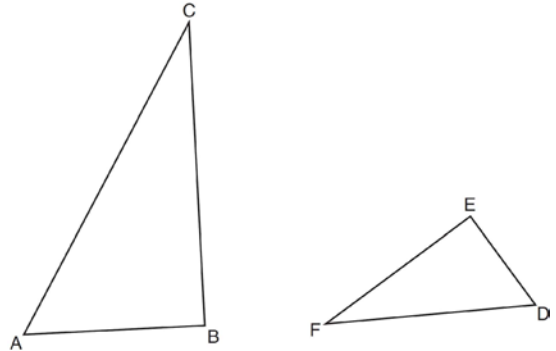
- 2 As shown in the diagram below, \overline{AB} and \overline{CD} intersect at E , and $\overline{AC} \parallel \overline{BD}$.



Given $\triangle AEC \sim \triangle BED$, which equation is true?

- 1) $\frac{CE}{DE} = \frac{EB}{EA}$
- 2) $\frac{AE}{BE} = \frac{AC}{BD}$
- 3) $\frac{EC}{AE} = \frac{BE}{ED}$
- 4) $\frac{ED}{EC} = \frac{AC}{BD}$

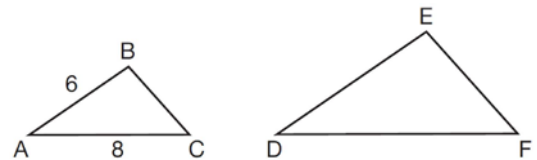
- 3 Triangles ABC and DEF are drawn below.



If $AB = 9$, $BC = 15$, $DE = 6$, $EF = 10$, and $\angle B \cong \angle E$, which statement is true?

- 1) $\angle CAB \cong \angle DEF$
- 2) $\frac{AB}{CB} = \frac{FE}{DE}$
- 3) $\triangle ABC \sim \triangle DEF$
- 4) $\frac{AB}{DE} = \frac{FE}{CB}$

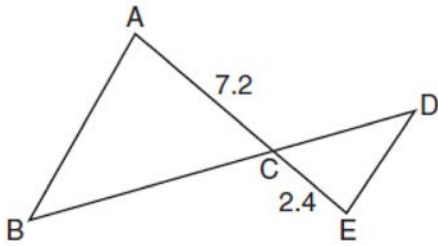
- 4 In the diagram below, $\triangle ABC \sim \triangle DEF$.



If $AB = 6$ and $AC = 8$, which statement will justify similarity by SAS?

- 1) $DE = 9$, $DF = 12$, and $\angle A \cong \angle D$
- 2) $DE = 8$, $DF = 10$, and $\angle A \cong \angle D$
- 3) $DE = 36$, $DF = 64$, and $\angle C \cong \angle F$
- 4) $DE = 15$, $DF = 20$, and $\angle C \cong \angle F$

5 In the diagram below, $AC = 7.2$ and $CE = 2.4$.

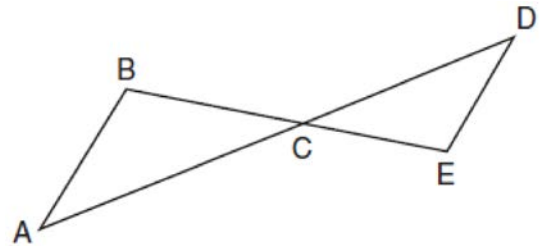


Which statement is *not* sufficient to prove $\triangle ABC \sim \triangle EDC$?

- 1) $\overline{AB} \parallel \overline{ED}$
 - 2) $DE = 2.7$ and $AB = 8.1$
 - 3) $CD = 3.6$ and $BC = 10.8$
 - 4) $DE = 3.0$, $AB = 9.0$, $CD = 2.9$, and $BC = 8.7$
- 6 Using the information given below, which set of triangles can *not* be proven similar?

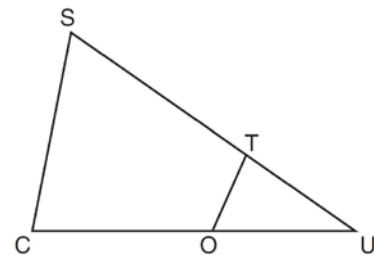
- 1)
- 2)
- 3)
- 4)

7 In the diagram below, \overline{AD} intersects \overline{BE} at C , and $\overline{AB} \parallel \overline{DE}$.



If $CD = 6.6$ cm, $DE = 3.4$ cm, $CE = 4.2$ cm, and $BC = 5.25$ cm, what is the length of AC , to the nearest hundredth of a centimeter?

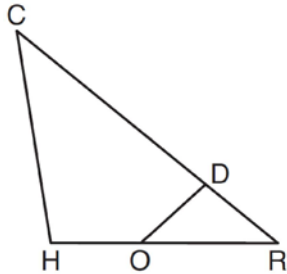
- 1) 2.70
 - 2) 3.34
 - 3) 5.28
 - 4) 8.25
- 8 In $\triangle SCU$ shown below, points T and O are on \overline{SU} and \overline{CU} , respectively. Segment \overline{OT} is drawn so that $\angle C \cong \angle OTU$.



If $TU = 4$, $OU = 5$, and $OC = 7$, what is the length of ST ?

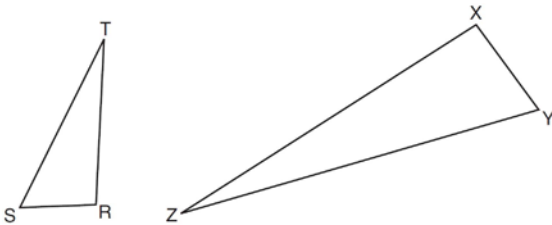
- 1) 5.6
- 2) 8.75
- 3) 11
- 4) 15

- 9 In triangle CHR , O is on \overline{HR} , and D is on \overline{CR} so that $\angle H \cong \angle RDO$.

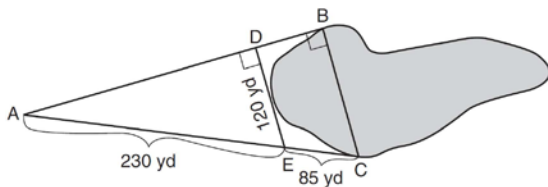


If $RD = 4$, $RO = 6$, and $OH = 4$, what is the length of \overline{CD} ?

- 1) $2\frac{2}{3}$
 - 2) $6\frac{2}{3}$
 - 3) 11
 - 4) 15
- 10 Triangles RST and XYZ are drawn below. If $RS = 6$, $ST = 14$, $XY = 9$, $YZ = 21$, and $\angle S \cong \angle Y$, is $\triangle RST$ similar to $\triangle XYZ$? Justify your answer.



- 11 To find the distance across a pond from point B to point C , a surveyor drew the diagram below. The measurements he made are indicated on his diagram.



Use the surveyor's information to determine and state the distance from point B to point C , to the nearest yard.

- 12 A flagpole casts a shadow 16.60 meters long. Tim stands at a distance of 12.45 meters from the base of the flagpole, such that the end of Tim's shadow meets the end of the flagpole's shadow. If Tim is 1.65 meters tall, determine and state the height of the flagpole to the nearest tenth of a meter.

G.SRT.B.5: Similarity 1

Answer Section

1 ANS: 4

$$\frac{1}{2} = \frac{x+3}{3x-1} \quad GR = 3(7) - 1 = 20$$

$$3x - 1 = 2x + 6$$

$$x = 7$$

REF: 011620geo

2 ANS: 2 REF: 081519geo

3 ANS: 3

$$\frac{AB}{BC} = \frac{DE}{EF}$$

$$\frac{9}{15} = \frac{6}{10}$$

$$90 = 90$$

REF: 061515geo

4 ANS: 1

$$\frac{6}{8} = \frac{9}{12}$$

REF: 011613geo

5 ANS: 2

(1) AA; (3) SAS; (4) SSS. NYSED has stated that all students should be awarded credit regardless of their answer to this question.

REF: 061724geo

6 ANS: 3

$$1) \frac{12}{9} = \frac{4}{3} \quad 2) \text{ AA} \quad 3) \frac{32}{16} \neq \frac{8}{2} \quad 4) \text{ SAS}$$

REF: 061605geo

7 ANS: 4

$$\frac{6.6}{x} = \frac{4.2}{5.25}$$

$$4.2x = 34.65$$

$$x = 8.25$$

REF: 081705geo

8 ANS: 3

$$\frac{12}{4} = \frac{x}{5} \quad 15 - 4 = 11$$

$$x = 15$$

REF: 011624geo

9 ANS: 3

$$\frac{x}{10} = \frac{6}{4} \quad \overline{CD} = 15 - 4 = 11$$

$$x = 15$$

REF: 081612geo

10 ANS:

$$\frac{6}{14} = \frac{9}{21} \quad \text{SAS}$$

$$126 = 126$$

REF: 081529geo

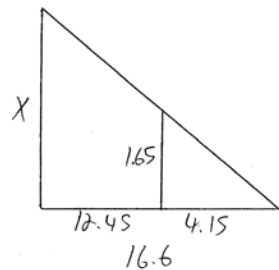
11 ANS:

$$\frac{120}{230} = \frac{x}{315}$$

$$x = 164$$

REF: 081527geo

12 ANS:



$$\frac{1.65}{4.15} = \frac{x}{16.6}$$

$$4.15x = 27.39$$

$$x = 6.6$$

REF: 061531geo