

Determining If a Proportion Is Correct (Candy Corn and HLLS SAAS)

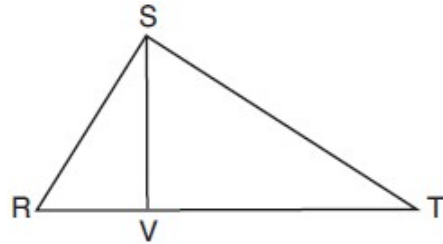
1. In right triangle RST below, altitude \overline{SV} is drawn to hypotenuse \overline{RT} . Which of the following proportions is true?

1) $\frac{\overline{RV}}{\overline{VS}} = \frac{\overline{VT}}{\overline{VS}}$

2) $\frac{\overline{RT}}{\overline{RS}} = \frac{\overline{RS}}{\overline{VT}}$

3) $\frac{\overline{RT}}{\overline{SV}} = \frac{\overline{SV}}{\overline{VT}}$

4) $\frac{\overline{RT}}{\overline{ST}} = \frac{\overline{ST}}{\overline{VT}}$



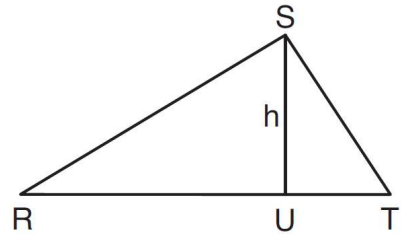
2. In right triangle RST below, altitude \overline{SU} is drawn to hypotenuse \overline{RT} . Which of the following proportions is *not* true?

1) $\frac{\overline{RU}}{\overline{SU}} = \frac{\overline{SU}}{\overline{UT}}$

2) $\frac{\overline{SU}}{\overline{RU}} = \frac{\overline{RU}}{\overline{UT}}$

3) $\frac{\overline{RT}}{\overline{RS}} = \frac{\overline{RS}}{\overline{RU}}$

4) $\frac{\overline{TR}}{\overline{ST}} = \frac{\overline{ST}}{\overline{UT}}$



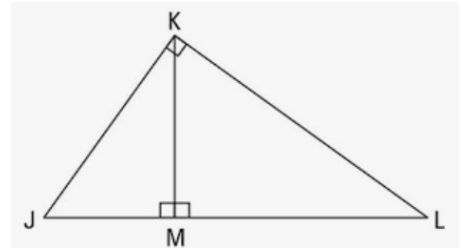
3. In right triangle JKL below, altitude \overline{KM} is drawn to hypotenuse \overline{JL} . Which of the following proportions is *not* true?

1) $\frac{\overline{JL}}{\overline{JK}} = \frac{\overline{JK}}{\overline{JM}}$

2) $\frac{\overline{JM}}{\overline{KM}} = \frac{\overline{KM}}{\overline{ML}}$

3) $\frac{\overline{JL}}{\overline{KL}} = \frac{\overline{KL}}{\overline{JM}}$

4) $\frac{\overline{ML}}{\overline{MK}} = \frac{\overline{MK}}{\overline{MJ}}$



4. In right triangle SNO below, altitude \overline{NW} is drawn to hypotenuse \overline{SO} .

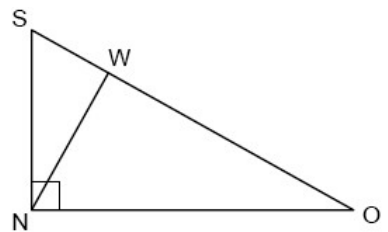
Which statement is *not* always true?

1) $\frac{\overline{SO}}{\overline{SN}} = \frac{\overline{SN}}{\overline{SW}}$

3) $\frac{\overline{SO}}{\overline{ON}} = \frac{\overline{ON}}{\overline{OW}}$

2) $\frac{\overline{SW}}{\overline{NS}} = \frac{\overline{NS}}{\overline{OW}}$

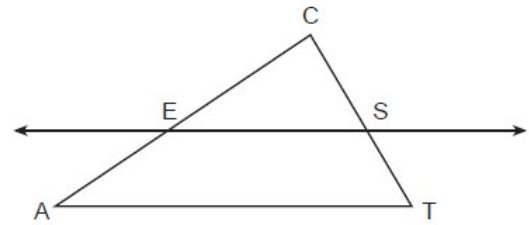
4) $\frac{\overline{OW}}{\overline{NW}} = \frac{\overline{NW}}{\overline{SW}}$



5. In the diagram below of $\triangle ACT$, \overleftrightarrow{ES} is drawn parallel to \overline{AT} such that E is on \overline{CA} and S is on \overline{CT} .

Which statement is always true?

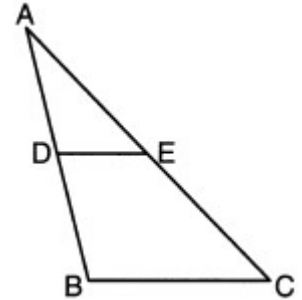
- 1) $\frac{CE}{CA} = \frac{CS}{ST}$ 3) $\frac{CE}{EA} = \frac{CS}{ST}$
 2) $\frac{CE}{ES} = \frac{EA}{AT}$ 4) $\frac{CE}{ST} = \frac{EA}{CS}$



6. In $\triangle ABC$ below, \overline{DE} is drawn such that D and E are on \overline{AB} and \overline{AC} , respectively.

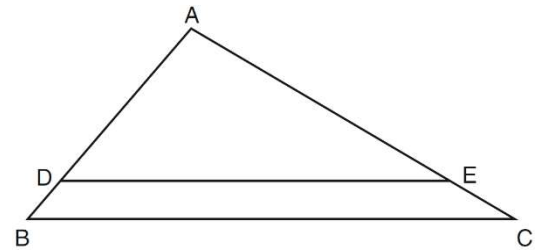
If $\overline{DE} \parallel \overline{BC}$, which equation will always be true?

- 1) $\frac{AD}{DE} = \frac{DB}{BC}$ 3) $\frac{AD}{BC} = \frac{DE}{DB}$
 2) $\frac{AD}{DE} = \frac{AB}{BC}$ 4) $\frac{AD}{BC} = \frac{DE}{AB}$



7. In the diagram of $\triangle ABC$ shown below, $\overline{DE} \parallel \overline{BC}$. Which of the following statements is *not* true?

- 1) $\frac{\overline{AD}}{\overline{DE}} = \frac{\overline{AB}}{\overline{BC}}$ 3) $\frac{\overline{AD}}{\overline{AE}} = \frac{\overline{DB}}{\overline{AC}}$
 2) $\frac{\overline{BC}}{\overline{DE}} = \frac{\overline{CA}}{\overline{EA}}$ 4) $\frac{\overline{DB}}{\overline{EC}} = \frac{\overline{AB}}{\overline{AC}}$



8. In the diagram below of right triangle AED , $\overline{BC} \parallel \overline{DE}$.

Which statement is always true?

- 1) $\frac{AC}{BC} = \frac{DE}{AE}$
 2) $\frac{AB}{AD} = \frac{BC}{DE}$
 3) $\frac{AC}{CE} = \frac{BC}{DE}$
 4) $\frac{DE}{BC} = \frac{DB}{AB}$

