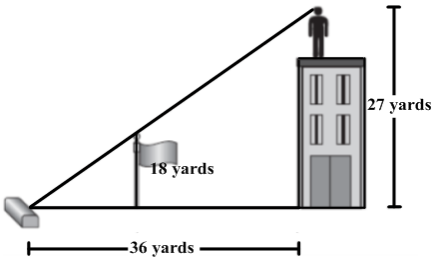
Name: _____

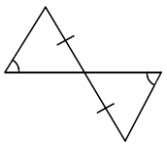
Semester 2 Final Review K
Mixed Triangles

1. Kara looks from a height of 27 yards at the top of her apartment building. She lines up the top of a flagpole with the curb of a street 36 yards from the apartment building. If the flagpole is 18 yards tall, how far from the apartment building is the flagpole?

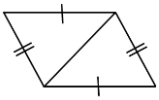


A. 54 yd.
B. 12 yd.
C. 24 yd.
D. 27 yd.

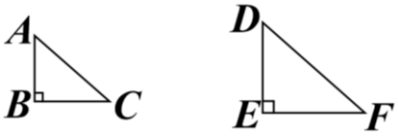
2. For which drawing can you use the given information, and the SAS Congruence Theorem to prove that the triangles are congruent?

A. 

B. 

C. 

3.

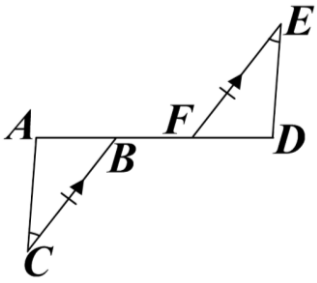


Note: Drawings are not necessarily to scale.

Can we prove the two triangles above similar?

A. Yes, because all right triangles are similar.
B. Yes, because the sides look proportional.
C. No, because $\angle A$ looks different than $\angle D$.
D. No, because we do not know if any other angle pairs are congruent.

4.



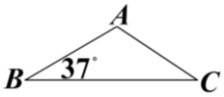
Given: $\overline{BC} \cong \overline{FE}, \angle C \cong \angle E, \overline{BC} || \overline{FE}$
Prove: $\triangle ABC \cong \triangle DFE$

Statements	Reasons
1. $\overline{BC} \cong \overline{FE}, \angle C \cong \angle E, \overline{BC} \| \overline{FE}$	1. Given
2. $\angle ABC \cong \angle DFE$	2. _____
3. $\triangle ABC \cong \triangle DFE$	3. _____

a. Reason #2 is _____

b. Reason #3 is _____

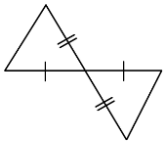
5. A ramp will be installed as modeled in the figure.

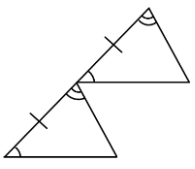


If $\angle C$ measures $x°$, what is the measure of $\angle A$?

_____

6. For which drawing can you use the given information, and the ASA Congruence Theorem to prove that the triangles are congruent?

A. 

B. 

C. 

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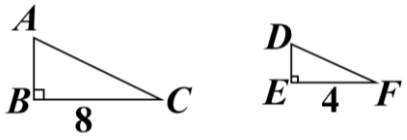
7.

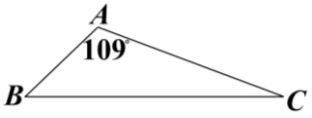


Note: Drawings are not necessarily to scale.

Can we prove the two triangles above similar?

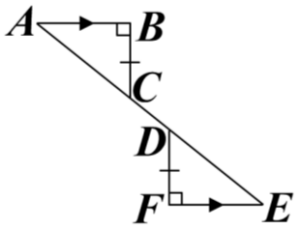
A. Yes, because the sides are proportional.
B. Yes, because the angles look congruent.
C. No, because we do not know whether $\overline{AB}$ and $\overline{DE}$ are congruent.
D. No, because we do not know whether $\angle B$ and $\angle E$ are congruent.

8. A ramp will be installed as modeled in the figure.



If $\angle C$ measures $x°$, what is the measure of $\angle B$?

9. Example 7:



Given: $\overline{BC} \cong \overline{FD}, m\angle B = 90°, m\angle F = 90°, \overline{AB} || \overline{EF}$

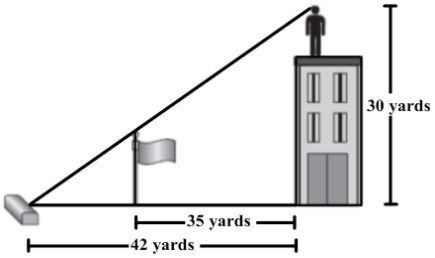
Prove: $\triangle ABC \cong \triangle EFD$

Statements	Reasons
1. $\overline{BC} \cong \overline{FD}, m\angle B = 90°,$ $m\angle F = 90°, \overline{AB} \| \overline{EF}$	1. Given
2. $\angle BAC \cong \angle FED$	2. _____
3. $m\angle B = m\angle F$	3. Substitution
4. $\angle B \cong \angle F$	4. Definition of Congruence
5. $\triangle ABC \cong \triangle EFD$	5. _____

a. Reason #2 is

b. Reason #5 is

10. Jasmin looks from a height of 30 yards at the top of her apartment building. She lines up the top of a flagpole with the curb of a street 42 yards from the apartment building. If the flagpole is 35 yards from the apartment building, how tall is the flagpole?



A. 5 yd.
B. 6 yd.
C. 7 yd.
D. 8 yd.

Semester 2 Final Review K
Mixed Triangles Answers:

1. B	2. B	3. D	4. a. Alt. Ext. ∠s Thm.; b. ASA	5. $(143 - x)°$
6. B	7. C	8. $(71 - x)°$	9. a. Alt. Int. ∠s Thm.; b. AAS	10. A