

Badaa Al Mutawa School

Student Name: _____

Grade: _____

Date: _____

Subject: Mathematics

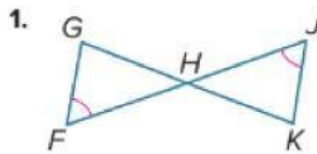
Subject Teacher: Abdulkader Amro

MATHEMATICS ASSESSMENT

M3L3 – Similar Triangles: AA Similarity

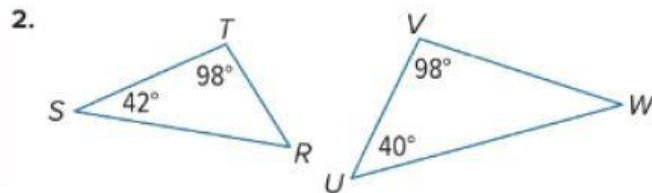
Instructions: Choose the one correct answer for each question. Show your work where appropriate. All diagrams are based on the source questions provided.

1. Determine whether the pair of triangles shown is similar. Choose the correct conclusion and reasoning.



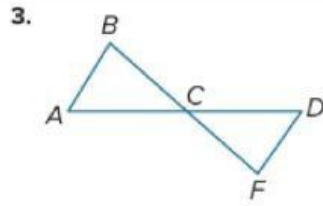
- A. Yes; the triangles are similar by SAS.
- B. No; only one pair of corresponding angles is congruent.
- C. Yes; $\triangle FGH \sim \triangle JKH$ by AA.
- D. Yes; the triangles are similar by SSS.

2. Determine whether the pair of triangles shown is similar. Choose the correct conclusion and reasoning.



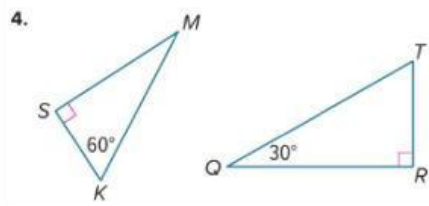
- A. Yes; $\triangle STR \sim \triangle WVU$ by AA.
- B. No; the two triangles have different angle measures.
- C. Yes; the triangles are similar by SAS.
- D. Yes; the triangles are similar by SSS.

3. Determine whether the pair of triangles shown is similar. Choose the correct conclusion and reasoning.



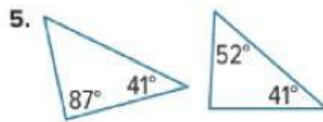
- A. Yes; the triangles are similar by AA because they share an angle at C.
- B. Yes; the triangles are similar by SSS.
- C. Yes; the triangles are similar by SAS.
- D. No; only a pair of vertical angles at C is known to be congruent, so there is not enough information to prove similarity.

4. Determine whether the pair of triangles shown is similar. Choose the correct conclusion and reasoning.



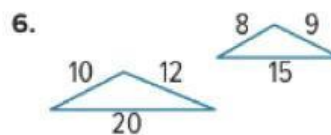
- A. No; the triangles have different orientations.
- B. Yes; $\triangle SKM \sim \triangle TRQ$ by AA.
- C. Yes; the triangles are similar by SSS.
- D. Yes; the triangles are similar by SAS.

5. Determine whether the pair of triangles shown is similar. Choose the correct conclusion and reasoning.



- A. No; the triangles do not have the same angle measures.
- B. Yes; the triangles are similar by SSS.
- C. Yes; the triangles are similar by AA because their angles are 41° , 52° , and 87° .
- D. No; the triangles are different sizes, so they cannot be similar.

6. Determine whether the pair of triangles shown is similar. Choose the correct conclusion and reasoning.

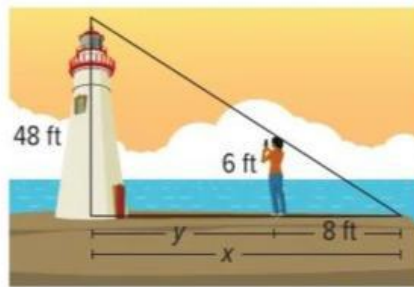


- A. No; the corresponding side ratios are not equal.
- B. Yes; the triangles are similar because their bases are 20 and 15.
- C. Yes; the triangles are similar by AA.
- D. Yes; the triangles are similar because $10 + 12 = 22$.

7. A cell phone tower casts a shadow that is 100 feet long. At the same time, Lia stands near the tower and casts a shadow that is 3 feet 4 inches long. If Lia is 4 feet 6 inches tall, how tall is the cell phone tower?

- A. 120 ft
- B. 130 ft
- C. 150 ft
- D. 135 ft

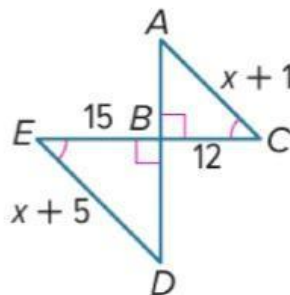
8. Maya wants to know how far she is standing from a lighthouse. The end of Maya's shadow coincides with the end of the lighthouse's shadow. The lighthouse is 48 ft tall, Maya is 6 ft tall, and Maya's shadow is 8 ft. What are the distances x (from the lighthouse to the end of the shadow) and y (from Maya to the lighthouse)?



- A. $x = 56$ ft, $y = 48$ ft
- B. $x = 64$ ft, $y = 56$ ft
- C. $x = 72$ ft, $y = 64$ ft
- D. $x = 64$ ft, $y = 48$ ft

9. Identify the similar triangles in the diagram and find AC.

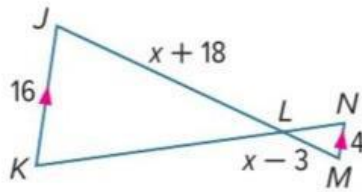
9. AC



- A. $\triangle EBD \sim \triangle CBA$; $AC = 16$
- B. $\triangle EBD \sim \triangle ABC$; $AC = 20$
- C. $\triangle EBD \sim \triangle CAB$; $AC = 12$
- D. The triangles are not similar; $AC = 14$

10. Identify the similar triangles in the diagram and find JL.

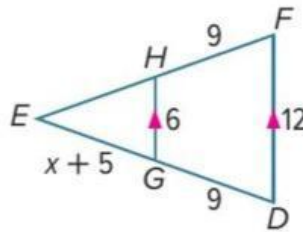
10. JL



- A. $\triangle JKL \sim \triangle MLN$; $JL = 24$
- B. The triangles are not similar; $JL = 20$
- C. $\triangle JKL \sim \triangle NML$; $JL = 28$
- D. $\triangle JKL \sim \triangle NLM$; $JL = 32$

11. Identify the similar triangles in the diagram and find EH.

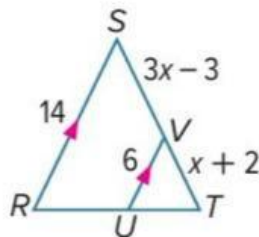
11. EH



- A. $\triangle EHG \sim \triangle EGD$; $EH = 6$
- B. $\triangle EHG \sim \triangle EFD$; $EH = 12$
- C. The triangles are not similar; $EH = 8$
- D. $\triangle EHG \sim \triangle EFD$; $EH = 9$

12. Identify the similar triangles in the diagram and find VT.

12. VT



- A. $\triangle VUT \sim \triangle RST$; $VT = 4.8$
- B. $\triangle VUT \sim \triangle RST$; $VT = 5.4$
- C. The triangles are not similar; $VT = 6$
- D. $\triangle VUT \sim \triangle SRT$; $VT = 7$