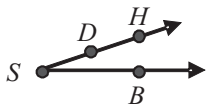
NAME_____ DATE_____

Module Test B — Module 8

Circle the correct answer for each problem.

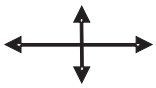
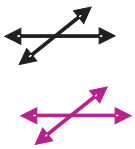
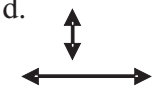
1. Which is NOT a correct way to name the angle shown?



a. $\angle BSD$ b. $\angle S$ c. $\angle HSD$ d. $\angle HSB$

∠HSD

2. Which diagram shows intersecting lines that are not perpendicular?

a.  b.  c.  d. 

3. $\angle A$ and $\angle B$ are complementary and $m\angle B = 39°$. What is $m\angle A$?

a. 39° b. 51° c. 90° d. 141°

51°

4. $\angle G$ and $\angle H$ are vertical angles and $m\angle G = 15°$. What is $m\angle H$?

a. 15° b. 30° c. 75° d. 165°

15°

5. Which can be the angle measures of an acute triangle?

a. 35°, 55° and 80° b. 40°, 70° and 70° c. 30°, 60° and 90° d. 5°, 15° and 160°

40°, 70° and 70°

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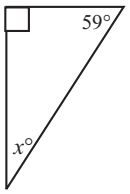
6. Which can be the side lengths of a scalene triangle?

a. 2 m, 4 m, 5 m b. 3 m, 3 m, 4 m c. 2 m, 5 m, 5 m d. 9 m, 9 m, 9 m

2 m, 4 m, 5 m

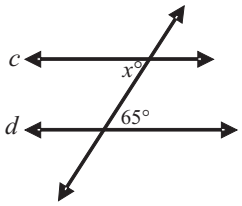
Find the value of *x*.

7.



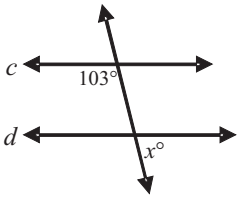
31°

8. $c \parallel d$



65°

9. $c \parallel d$



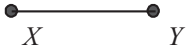
77°

Write all the ways to name the figure using symbols.

10.

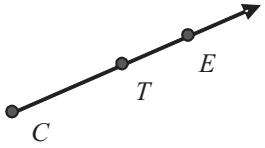
$\overleftrightarrow{AN}$, $\overleftrightarrow{NA}$, $\overleftrightarrow{AD}$, $\overleftrightarrow{DA}$, $\overleftrightarrow{ND}$, or $\overleftrightarrow{DN}$

11.



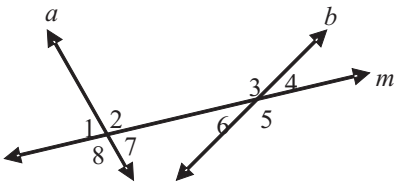
$\overline{XY}$ or $\overline{YX}$

12.



$\overrightarrow{CT}$ or $\overrightarrow{CE}$

Line *m* is a transversal intersecting lines *a* and *b*. Describe each pair of angles as vertical, corresponding, alternate interior, alternate exterior, or none of the these.



13. ∠2 and ∠4 **Corresponding**

14. ∠3 and ∠5 **Vertical**

15. ∠1 and ∠5 **Alternate exterior**

16. ∠7 and ∠3 **Alternate interior**

17. ∠6 and ∠8 **Corresponding**

18. ∠1 and ∠6 **None of these**

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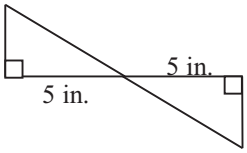
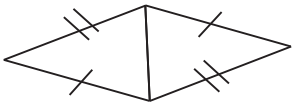
Determine whether the triangles are congruent. If so, write *SSS Congruence*, *SAS Congruence*, or *ASA Congruence*.

19.



Yes: ASA Congruence

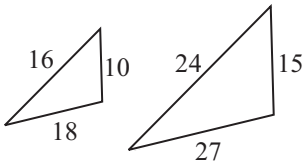
20.



Yes: SSS Congruence

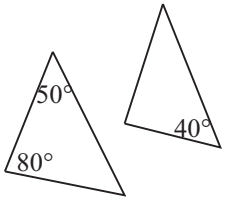
Determine whether the triangles are similar. If so, write *AA Similarity* or *SSS Similarity*.

21.



Yes: SSS Similarity

22.



No

23. $\triangle CAP \cong \triangle TOE$

a. Which segment must be congruent to $\overline{CP}$? $\overline{TE}$

b. Which angle must be congruent to $\angle E$? $\angle P$

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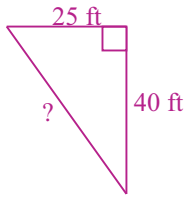
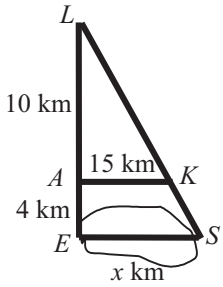
24. From a bus stop, Monette walked 25 feet due east and then 40 feet due south. Tell how to find Monette's direct distance to the bus stop. Find the distance to the nearest tenth of a foot.

The distances that Monette walked form the legs of a right triangle. They are a and b in the Pythagorean Theorem. Substitute 25 and 40 into $a^2 + b^2 = c^2$ and solve for c, the unknown distance. The distance is about 47.2 feet.

$$a^2 + b^2 = c^2$$
$$25^2 + 40^2 = c^2$$
$$625 + 1{,}600 = c^2$$
$$2{,}225 = c^2$$
$$47.2 \approx c$$



25. Write a similarity statement for the similar triangles in the figure. Explain why the triangles are similar. Then, show how to find x, the distance across the lake.



$\triangle LAK \sim \triangle LES$ because of AA Similarity. $\angle L$ is congruent to itself, and $\angle LAK$ and $\angle LES$ are both right angles. Write and solve a proportion using corresponding sides.

$$\frac{LA}{LE} = \frac{AK}{ES} \rightarrow \frac{10}{14} = \frac{15}{x}$$

$$10x = 210$$
$$x = 21$$

The distance across the lake is 21 km.

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