

MINISTRY OF EDUCATION

Badaa Al Mutawa School

MATHEMATICS ASSESSMENT • M3L6 Parts of Similar Triangle

Student Name: _____

Grade: _____

Date: _____

Subject: Mathematics

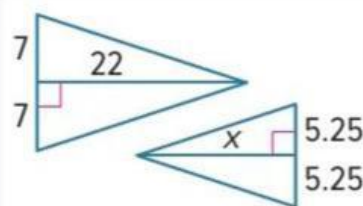
Subject Teacher: Abdulkader Amro

Assessment Type: Multiple Choice — 4 options per question

Directions: Choose the one best answer for each question. Use the information in the figures and apply similarity, proportions, and the Angle Bisector Theorem where appropriate.

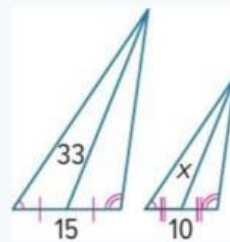
1. Each pair of triangles is similar. Find the value of x .

- | | |
|----------|---------|
| A. 16.5 | B. 14 |
| C. 15.75 | D. 17.5 |



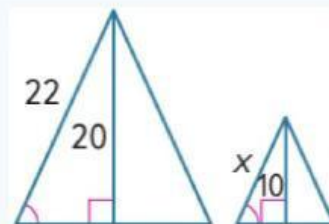
2. Each pair of triangles is similar. Find the value of x .

- | | |
|----------|-------|
| A. 20 | B. 22 |
| C. 24.75 | D. 25 |



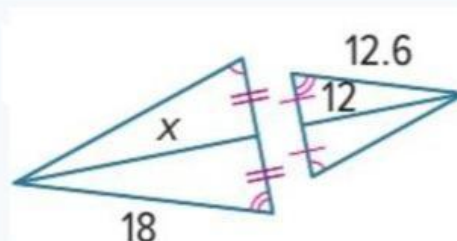
3. Each pair of triangles is similar. Find the value of x .

- | | |
|-------|---------|
| A. 10 | B. 12.1 |
| C. 11 | D. 14 |



4. Each pair of triangles is similar. Find the value of x .

- | | |
|---------|-------------------|
| A. 16.8 | B. 18.0 |
| C. 15.4 | D. ≈ 17.1 |



5. $\triangle RST \sim \triangle EFG$. SH is an altitude of $\triangle RST$, FJ is an altitude of $\triangle EFG$. $ST = 6$, $SH = 5$, and $FJ = 7$. Find FG .

A. 7.0

B. 8.4

C. 8.0

D. 9.2



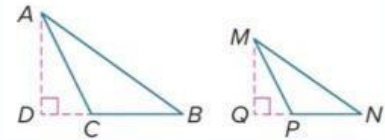
6. If $\triangle ABC \sim \triangle MNP$, AD is an altitude of $\triangle ABC$, MQ is an altitude of $\triangle MNP$, $AB = 24$, $AD = 14$, and $MQ = 10.5$, find MN .

A. 15.75

B. 21

C. 16.5

D. 18



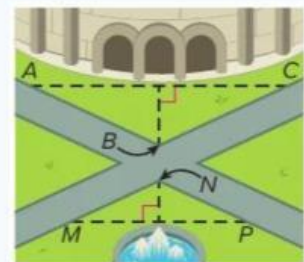
7. The intersection of the two paths shown forms two similar triangles. If AC is 50 yards, MP is 35 yards, and the fountain is 5 yards from the intersection, about how far from the intersection is the stadium entrance? Round to the nearest yard.

A. 7 yd

B. 8 yd

C. 5 yd

D. 10 yd



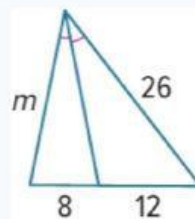
8. Find the value of m to the nearest tenth.

A. 13.0

B. 19.5

C. 17.3

D. 21.7



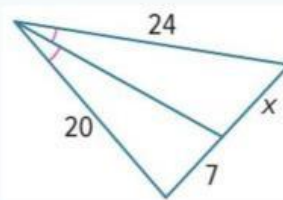
9. Find the value of x to the nearest tenth.

A. 6.7

B. 7.0

C. 9.6

D. 8.4



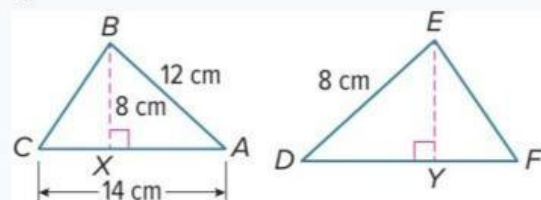
10. For Exercises 10 and 11, $\triangle ABC \sim \triangle DEF$. Find the length of XC to the nearest tenth.

A. 6.1 cm

B. 5.1 cm

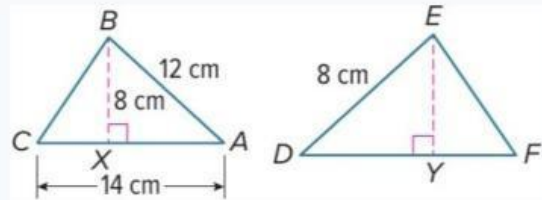
C. 4.9 cm

D. 7.1 cm



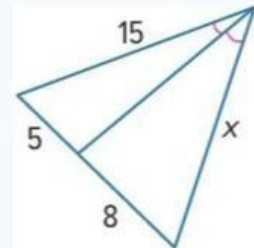
11. For Exercises 10 and 11, $\triangle ABC \sim \triangle DEF$. Find the length of EY to the nearest tenth.

- | | |
|-----------|-----------|
| A. 5.3 cm | B. 6.0 cm |
| C. 7.2 cm | D. 4.0 cm |



12. Chun and Traci are determining the value of x in the figure. Chun says to find x , solve $\frac{5}{8} = \frac{15}{x}$, but Traci says to find x , the proportion $\frac{5}{x} = \frac{8}{15}$ should be solved. Is either of them correct?

- | | |
|---------------------------------|-----------------------------------|
| A. Traci is correct; $x = 24$. | B. Both are correct; $x = 24$. |
| C. Chun is correct; $x = 24$. | D. Neither is correct; $x = 16$. |



13. The perimeter of $\triangle PQR$ is 94 units. QS bisects $\angle PQR$. Find PS and RS. Round to the nearest tenth, if necessary.

- | | |
|-------------------------|-------------------------|
| A. PS = 21.2, RS = 21.2 | B. PS = 24.0, RS = 18.4 |
| C. PS = 19.6, RS = 22.8 | D. PS = 18.4, RS = 24.0 |

