

NAME: \_\_\_\_\_

1. 060411a, P.I. G.G.45

Delroy's sailboat has two sails that are similar triangles. The larger sail has sides of 10 feet, 24 feet, and 26 feet. If the shortest side of the smaller sail measures 6 feet, what is the perimeter of the *smaller* sail?

- [A] 100 ft                      [B] 60 ft  
[C] 36 ft                      [D] 15 ft

2. 060208a, P.I. G.G.45

Two triangles are similar. The lengths of the sides of the smaller triangle are 3, 5, and 6, and the length of the longest side of the larger triangle is 18. What is the perimeter of the larger triangle?

- [A] 18      [B] 24      [C] 14      [D] 42

3. 010704a, P.I. G.G.45

The base of an isosceles triangle is 5 and its perimeter is 11. The base of a similar isosceles triangle is 10. What is the perimeter of the larger triangle?

- [A] 15      [B] 22      [C] 21      [D] 110

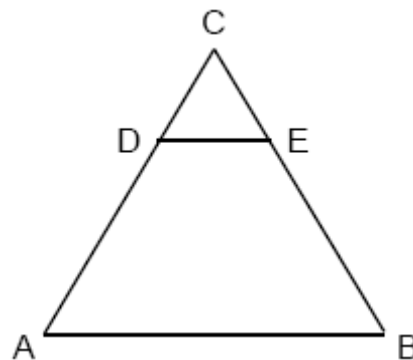
4. 080814a

Pentagon  $ABCDE$  is similar to pentagon  $FGHIJ$ . The lengths of the sides of  $ABCDE$  are 8, 9, 10, 11, and 12. If the length of the longest side of pentagon  $FGHIJ$  is 18, what is the perimeter of pentagon  $FGHIJ$ ?

- [A] 100      [B] 56      [C] 75      [D] 50

5. 089915a, P.I. G.G.45

In the accompanying diagram of equilateral triangle  $ABC$ ,  $DE = 5$  and  $\overline{DE} \parallel \overline{AB}$ .



If  $AB$  is three times as long as  $DE$ , what is the perimeter of quadrilateral  $ABED$ ?

- [A] 30      [B] 35      [C] 20      [D] 40

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6. 060524a, P.I. G.G.45

On a scale drawing of a new school playground, a triangular area has sides with lengths of 8 centimeters, 15 centimeters, and 17 centimeters. If the triangular area located on the playground has a perimeter of 120 meters, what is the length of its longest side?

- [A] 24 m                      [B] 40 m  
[C] 45 m                      [D] 51 m

7. 089918a, P.I. G.G.58

The ratio of the corresponding sides of two similar squares is 1 to 3. What is the ratio of the area of the smaller square to the area of the larger square ?

- [A] 1:9      [B] 1:3      [C] 1:6      [D]  $1:\sqrt{3}$

8. 060322a, P.I. G.G.58

The lengths of the sides of two similar rectangular billboards are in the ratio 5:4. If 250 square feet of material is needed to cover the larger billboard, how much material, in square feet, is needed to cover the smaller billboard?

9. 080729a, P.I. G.G.45

Which is *not* a property of all similar triangles?

- [A] The altitudes are in the same ratio as the corresponding sides.  
[B] The perimeters are in the same ratio as the corresponding sides.  
[C] The corresponding sides are congruent.  
[D] The corresponding angles are congruent.

10. fall0826ge, P.I. G.G.45

Two triangles are similar, and the ratio of each pair of corresponding sides is 2 : 1. Which statement regarding the two triangles is *not* true?

- [A] Their altitudes have a ratio of 2 : 1.  
[B] Their perimeters have a ratio of 2 : 1.  
[C] Their areas have a ratio of 4 : 1.  
[D] Their corresponding angles have a ratio of 2 : 1.

[1] C \_\_\_\_\_

[2] D \_\_\_\_\_

[3] B \_\_\_\_\_

[4] C \_\_\_\_\_

[5] D \_\_\_\_\_

[6] D \_\_\_\_\_

[7] A \_\_\_\_\_

[2] 160, and appropriate work is shown, such

as the proportion  $\frac{25}{16} = \frac{250}{x}$ .

[1] Appropriate work is shown, but one computational error or one conceptual error is

made, such as  $\frac{5}{4} = \frac{250}{x}$ .

or [1] 160, but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[8] incorrect procedure. \_\_\_\_\_

[9] C \_\_\_\_\_

[10] D \_\_\_\_\_