Warm up on Right Triangles and Review MP4

Name: _____ **Date:** _____

1. In rectangle $ABCD$, $AB = 6$ and the length of diagonal $\overline{AC}$ is 10. The area of $ABCD$ is

   A. 60 B. 48 C. 32 D. 28

2. The diagonals of a rhombus measure 6 meters and 8 meters. Find the number of meters in the perimeter of the rhombus.

3. The diagonals of a rhombus have lengths of 8 centimeters and 6 centimeters. The perimeter of the rhombus is

   A. 20 cm B. 24 cm C. 5 cm D. 14 cm

4. If the legs of a right triangle are 4 and 7, the length of the hypotenuse is

   A. $\sqrt{3}$ B. $\sqrt{33}$ C. $\sqrt{11}$ D. $\sqrt{65}$

5. If the length of one leg of a right triangle is 5 and the length of the hypotenuse is 6, then the length of the other leg is

   A. $\sqrt{61}$ B. $\sqrt{11}$ C. 3 D. 4

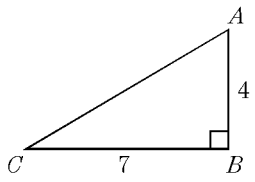
6. In $\triangle ABC$, $\overline{AB} \cong \overline{BC}$, $AB = 17$, and $AC = 30$. The length of the altitude to $\overline{AC}$ is

   A. 17 B. 15 C. 8 D. 4

7. In the accompanying diagram of right triangle ABC, $AB = 4$ and $BC = 7$. What is the length of $\overline{AC}$ to the *nearest hundredth*?

   A. 5.74 B. 5.75

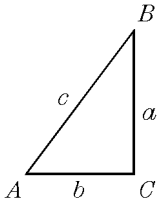
   C. 8.06 D. 8.08



8. In the accompanying diagram of right triangle ABC, $\angle C$ is a right angle. Which equation is valid for $\triangle ABC$?

A. $\cos A = \frac{c}{b}$ B. $\tan A = \frac{b}{a}$

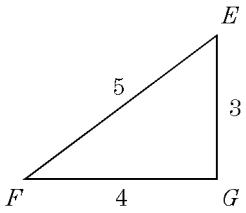
C. $\sin A = \frac{a}{c}$ D. $\cos B = \frac{a}{b}$



9. In the accompanying diagram, what is $\sin E$?

A. $\frac{3}{4}$ B. $\frac{4}{3}$

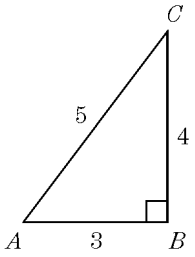
C. $\frac{3}{5}$ D. $\frac{4}{5}$



10. In the accompanying diagram, the legs of right triangle ABC are 4 and 3, and the hypotenuse is 5. What is the value of $\tan A$?

A. $\frac{4}{3}$ B. $\frac{3}{5}$

C. $\frac{4}{5}$ D. $\frac{3}{4}$

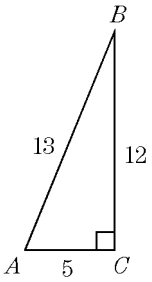


11. In the accompanying diagram, the legs of right triangle ABC are 5 and 12 and the hypotenuse is 13.

What is the value of $\cos A$?

A. $\frac{12}{13}$ B. $\frac{13}{5}$

C. $\frac{5}{13}$ D. $\frac{12}{5}$



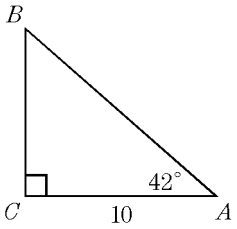
12. In the accompanying diagram, $m\angle C = 90$, $m\angle A = 42$, and $CA = 10$. Which equation can be used to find AB?

A. $\tan 42^\circ = \frac{10}{AB}$

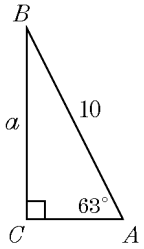
B. $\tan 42^\circ = \frac{AB}{10}$

C. $\cos 42^\circ = \frac{AB}{10}$

D. $\cos 42^\circ = \frac{10}{AB}$



13. In right triangle ABC, $m\angle C = 90$, $m\angle A = 63$, and $AB = 10$. If BC is represented by a, then which equation can be used to find a?



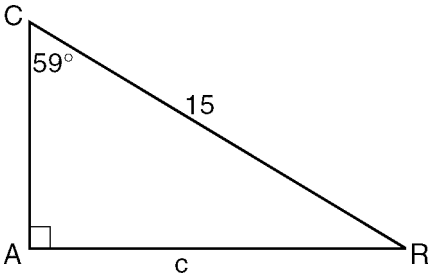
A. $\sin 63^\circ = \frac{a}{10}$

B. $a = 10 \cos 63^\circ$

C. $\tan 63^\circ = \frac{a}{10}$

D. $a = \tan 27^\circ$

14. In the accompanying diagram of right triangle CAR, $m\angle A = 90$, $m\angle C = 59$, and $CR = 15$. If AR is represented by c, which equation can be used to find c?



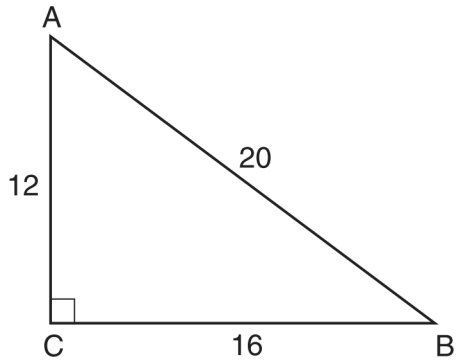
A. $\sin 59^\circ = \frac{c}{15}$

B. $\cos 59^\circ = \frac{c}{15}$

C. $\tan 59^\circ = \frac{c}{15}$

D. $\sin 31^\circ = \frac{c}{15}$

15. In right triangle ABC shown below, $AC = 12$, $BC = 16$, and $AB = 20$.



Which equation is *not* correct?

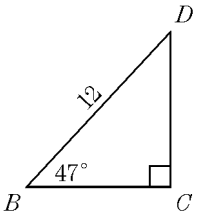
A. $\cos A = \frac{12}{20}$

B. $\tan A = \frac{16}{12}$

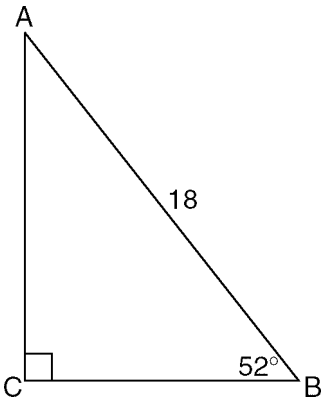
C. $\sin B = \frac{12}{20}$

D. $\tan B = \frac{26}{20}$

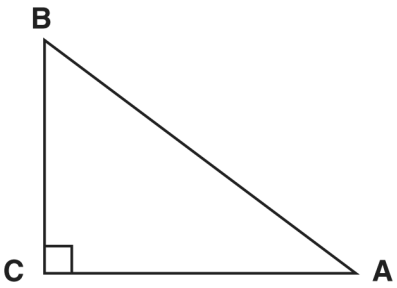
16. In right triangle BCD, $BD = 12$, $m\angle C = 90$, and $m\angle DBC = 47$. Find DC to the *nearest tenth*.



17. In the accompanying diagram of right triangle ABC, $m\angle C = 90$, $AB = 18$, and $m\angle B = 52$. Find the length of to the *nearest tenth*.



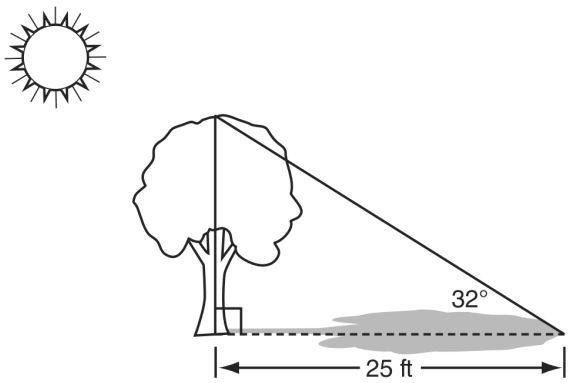
18. In the diagram of $\triangle ABC$ shown below, $BC = 10$ and $AB = 16$.



To the *nearest tenth of a degree*, what is the measure of the largest acute angle in the triangle?

A. 32.0 B. 38.7 C. 51.3 D. 90.0

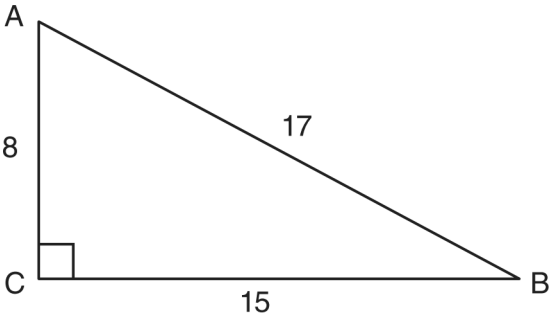
19. A tree casts a 25-foot shadow on a sunny day, as shown in the diagram below.



If the angle of elevation from the tip of the shadow to the top of the tree is 32°, what is the height of the tree to the *nearest tenth of a foot*?

A. 13.2 B. 15.6 C. 21.2 D. 40.0

20. Right triangle ABC has legs of 8 and 15 and a hypotenuse of 17, as shown in the diagram below.

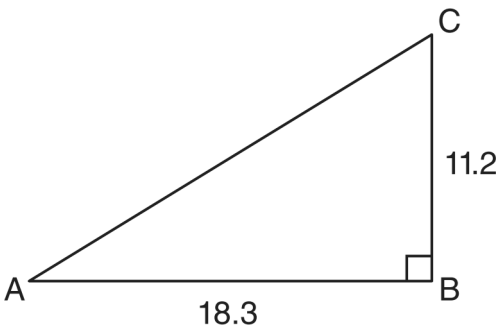


The value of the tangent of $\angle B$ is

A. 0.4706 B. 0.5333

C. 0.8824 D. 1.8750

21. In right triangle ABC shown below, $AB = 18.3$ and $BC = 11.2$.



What is the measure of $\angle A$, to the *nearest tenth of a degree*?

A. 31.5 B. 37.7 C. 52.3 D. 58.5

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1.
Answer: B

2.
Answer: 20

3.
Answer: A

4.
Answer: D

5.
Answer: B

6.
Answer: C

7.
Answer: C

8.
Answer: C

9.
Answer: D

10.
Answer: A

11.
Answer: C

12.
Answer: D

13.
Answer: A

14.
Answer: A

15.
Answer: D

16.
Answer: 8.8

17.
Answer: 11.1

18.
Answer: C

19.
Answer: B

20.
Answer: B

21.
Answer: A