Name: _____

Date: _____

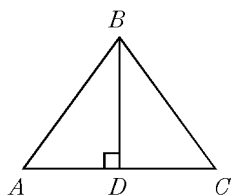1. Express $\sqrt{75}$ in simplest radical form.

2. The sum of $\sqrt{18}$ and $\sqrt{72}$ is

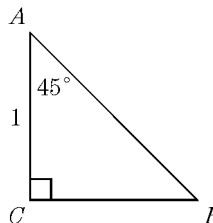   A. $\sqrt{90}$ B. $9\sqrt{2}$ C. $3\sqrt{10}$ D. $6\sqrt{3}$

3. Expressed in simplest radical form, the product of $\sqrt{6} \cdot \sqrt{15}$ is

   A. $\sqrt{90}$ B. $9\sqrt{10}$ C. $3\sqrt{10}$ D. $3\sqrt{15}$

4. In the accompanying diagram of isosceles triangle ABC, $\overline{BA} \cong \overline{BC}$ and altitude $\overline{BD}$ is drawn. If $BD = 4$ and $AD = 3$, find the perimeter of $\triangle ABC$.

5. In the accompanying diagram of right triangle ABC, $m\angle C = 90$, $m\angle A = 45$, and $AC = 1$. Find, in radical form, the length of $\overline{AB}$.
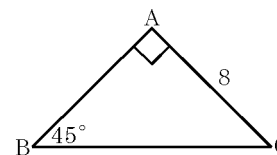

6. The hypotenuse of right triangle ABC is 10 and $m\angle A = 60$. What is the measure, to the *nearest tenth*, of the leg opposite $\angle A$?

   A. 5.0   B. 5.8   C. 7.1   D. 8.7

7. In the diagram shown of right triangle BAC, $m\angle A = 90$, $m\angle B = 45$, and $AC = 8$.
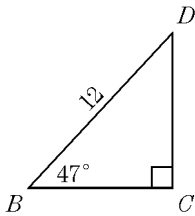
   What is the length of BC?

   A. $8\sqrt{3}$

   B. $8\sqrt{2}$

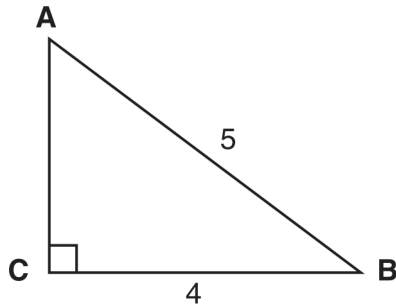   C. $4\sqrt{2}$

   D. $16\sqrt{2}$

8. In $\triangle ABC$, $a = \sqrt{2}$, $b = 1$, and $m\angle A = 90$. Find the measure of $\angle B$.

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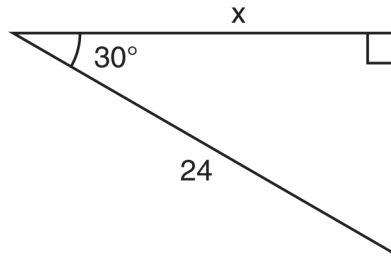

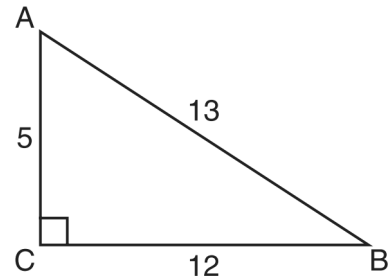10. Which equation could be used to find the measure of one acute angle in the right triangle shown below?

A. $\sin A = \frac{4}{5}$

B. $\tan A = \frac{5}{4}$

C. $\cos B = \frac{5}{4}$

D. $\tan B = \frac{5}{4}$

11. In the right triangle shown in the diagram below, what is the value of x to the *nearest whole number*?

A. 12   B. 14   C. 21   D. 28

12. The diagram below shows right triangle ABC

Which ratio represents the tangent of $\angle ABC$?

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

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1.
Answer: $5\sqrt{3}$

2.
Answer: B

3.
Answer: B

4.
Answer: 16

5.
Answer: $\sqrt{2}$

6.
Answer: D

7.
Answer: B

8.
Answer: $45°$

9.
Answer: 8.8

10.
Answer: A

11.
Answer: C

12.
Answer: B