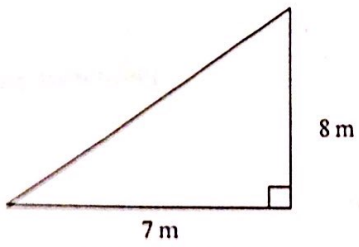
U5D3 Warm Up

Multiple Choice
Identify the choice that best completes the statement or answers the question.

Find the length of the missing side. Leave your answer in simplest radical form.

C 1.

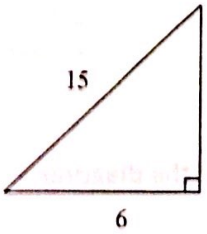


Not drawn to scale

$7^2+8^2=c^2$
$49+64=c^2$
$113=c^2$

a. $\sqrt{17}$ m b. 113 m c. $\sqrt{113}$ m d. $\sqrt{71}$ m

B 2.



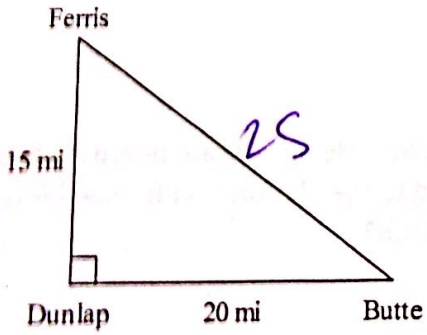
Not drawn to scale

$15^2=a^2+6^2$
$225=a^2+36$
$\sqrt{189}=\sqrt{a^2}$

189
9 · 21
3·3 3·7
$3\sqrt{21}$

a. $3\sqrt{29}$ cm b. $3\sqrt{21}$ cm c. $\sqrt{21}$ cm d. 3 cm

C 3. Wayne used the diagram to compute the distance from Ferris to Dunlap to Butte. How much shorter is the distance directly from Ferris to Butte than the distance Wayne found?

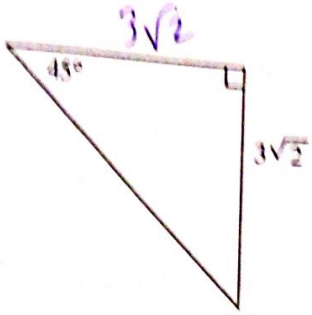


$15^2+20^2=c^2$
$625=c^2$
$25=c$

35
−25
10 shorter

a. 20 mi b. 25 mi c. 10 mi d. 35 mi

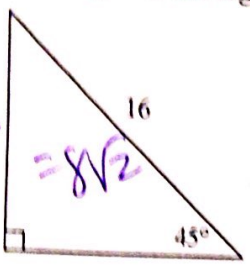
B 4. Find the length of the hypotenuse.



$3\sqrt{2} \cdot \sqrt{2} = 3\sqrt{4} = 6$

B a. 12 (b.) 6 c. 5 d. 18

5. Find the length of the leg. If your answer is not an integer, leave it in simplest radical form.



$\frac{16\sqrt{2}}{2} = 8\sqrt{2}$

Not drawn to scale

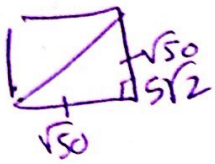
$5\sqrt{2} = 10\sqrt{2}$ $5\sqrt{2}$

$5\sqrt{2} \cdot \sqrt{2}$ $\frac{10}{2}(5)$

a. 128 (b.) $8\sqrt{2}$ c. 16 d. $2\sqrt{2}$

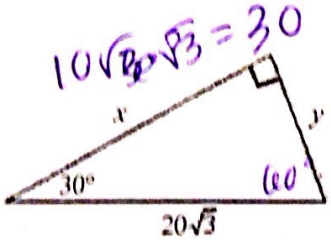
D 6. The area of a square garden is 50 m². How long is the diagonal?

a. 25 m b. 100 m c. $5\sqrt{6}$ m (d.) 10 m



Find the value of the variable(s). If your answer is not an integer, leave it in simplest radical form.

D 7.



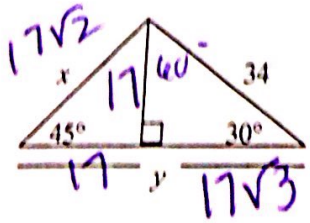
$10\sqrt{3} \cdot \sqrt{3}$

Not drawn to scale

a. $x = 10\sqrt{3}, y = 30$ c. $x = 30\sqrt{3}, y = 10$

b. $x = 10, y = 30\sqrt{3}$ (d.) $x = 30, y = 10\sqrt{3}$

8. Find the value of x and y rounded to the nearest tenth.



$x = 17\sqrt{2}$

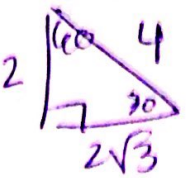
$y = 17 + 17\sqrt{3}$

a. $x = 48.1, y = 46.4$
b. $x = 48.1, y = 139.3$
c. $x = 24.0, y = 139.3$
d. $x = 24.0, y = 46.4$

B

9. The length of the hypotenuse of a 30°-60°-90° triangle is 4. Find the perimeter.

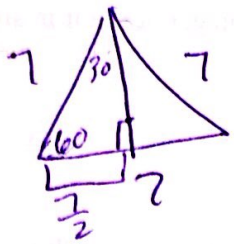
a. $4 + 12\sqrt{3}$
b. $6 + 2\sqrt{3}$
c. $2 + 6\sqrt{3}$
d. $12 + 4\sqrt{3}$



D

10. A piece of art is in the shape of an equilateral triangle with sides of 7 in. Find the area of the piece of art. Round your answer to the nearest tenth.

a. none of these
b. 42.4 in.^{2}
c. 17.3 in.^{2}
d. 21.2 in.^{2}



$\frac{7\sqrt{3}}{2}$

$A = \frac{1}{2}(7)\left(\frac{7\sqrt{3}}{2}\right)$

$A \approx 21.2$