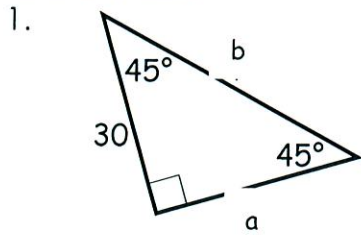
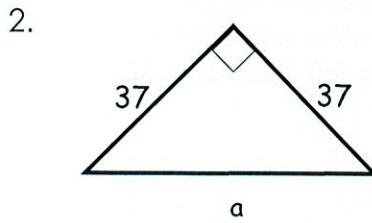


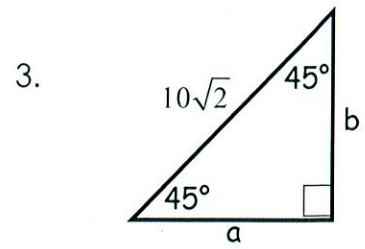
Find **a** and **b**.



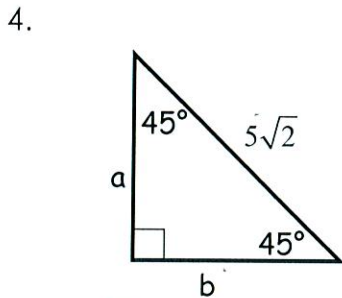
$a = 30$ $b = 30\sqrt{2}$



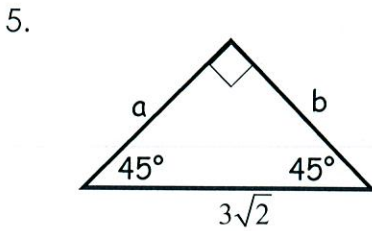
$a = 37\sqrt{2}$



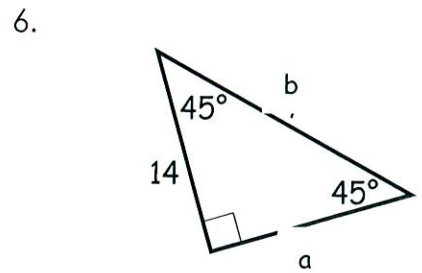
$a = 10$ $b = 10$



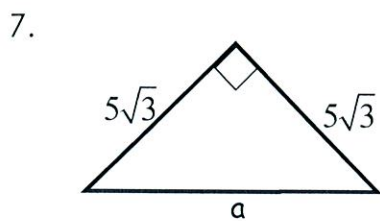
$a = 5$ $b = 5$



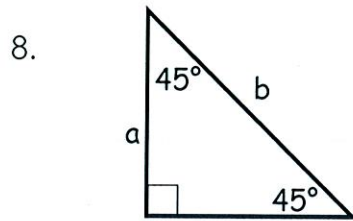
$a = 3$ $b = 3$



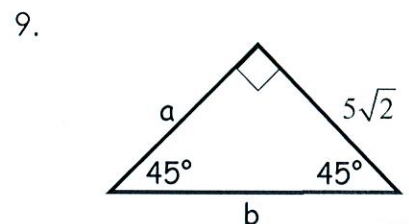
$a = 14$ $b = 14\sqrt{2}$



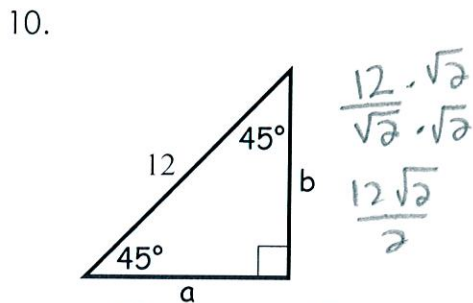
$a = 5$



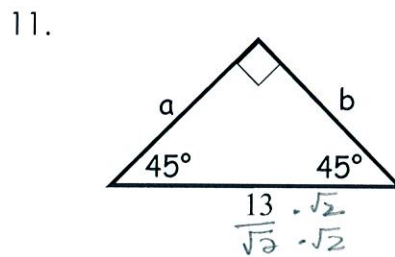
$a = \sqrt{7}$ $b = \sqrt{7}$



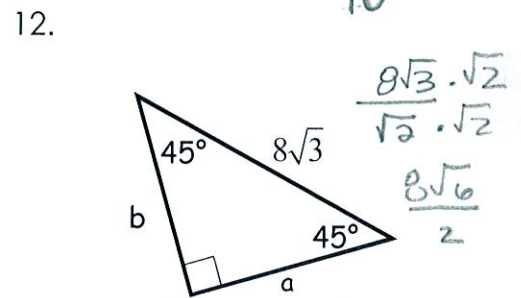
$a = 5\sqrt{2}$ $b = 5\sqrt{2}$



$a = 6\sqrt{2}$ $b = 6\sqrt{2}$

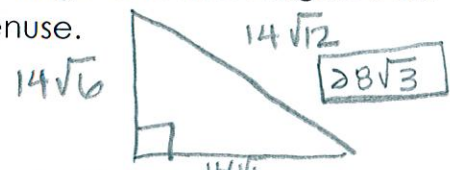


$a = \frac{13\sqrt{2}}{2}$ $b = \frac{13\sqrt{2}}{2}$



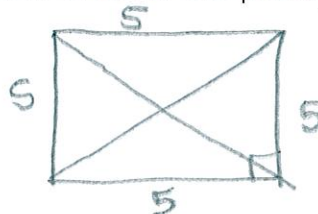
$a = 4\sqrt{6}$ $b = 4\sqrt{6}$

13. A triangle has the following characteristics: a 90° angle and side lengths both measuring $14\sqrt{6}$ in. Find the length of the hypotenuse.

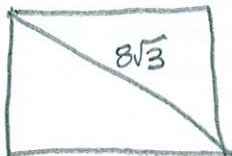


14. The area of a square is 25 cm. What is the product of the lengths of the diagonals of the square?

$5\sqrt{2} \cdot 5\sqrt{2}$
 $25\sqrt{4}$
 50



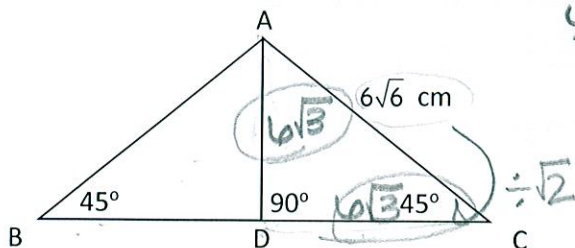
15. If a diagonal of the square is $8\sqrt{3}$, what is the length of each side?



$$\frac{8\sqrt{3} \cdot \sqrt{2}}{\sqrt{2} \cdot \sqrt{2}} = \frac{8\sqrt{6}}{2} = 4\sqrt{6}$$

Find the area of triangle ABC in the following. Don't forget to write your units!

16.



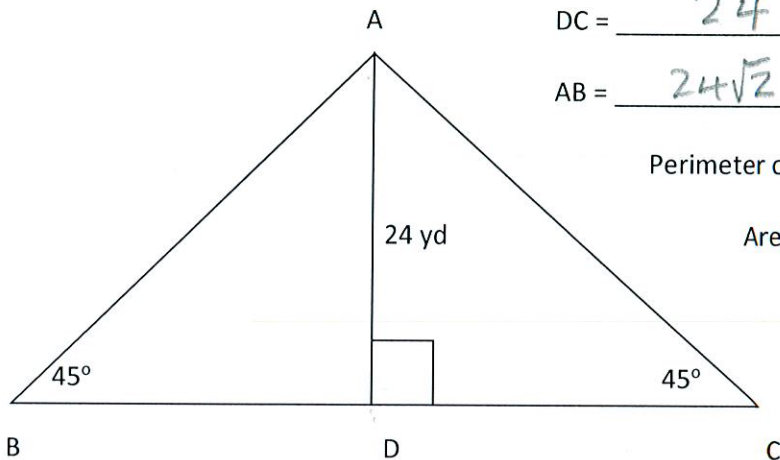
$$\frac{6\sqrt{6} \cdot \sqrt{2}}{\sqrt{2} \cdot \sqrt{2}} = \frac{6\sqrt{12}}{2} = \frac{12\sqrt{3}}{2} = 6\sqrt{3}$$

$$\frac{1}{2}bh = \frac{1}{2}(6)(6)$$

AD = $6\sqrt{3}$ DC = $6\sqrt{3}$ BC = $12\sqrt{3}$ Area \square ABC = 108 cm^2

$$\frac{(6\sqrt{3})(6\sqrt{3})}{2} = 36\sqrt{9} = 36 \cdot 3$$

17.



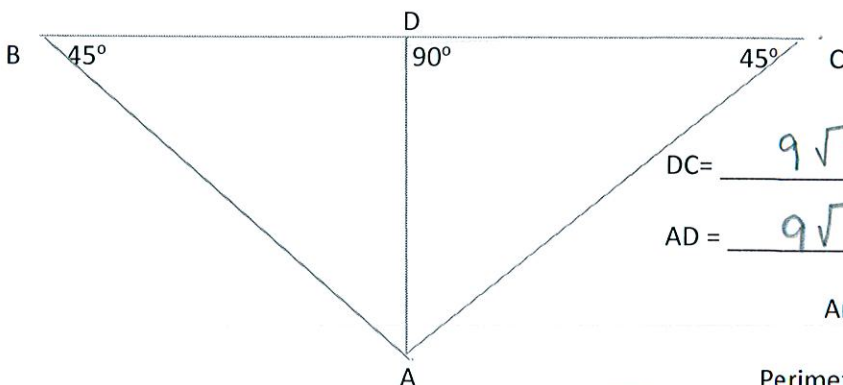
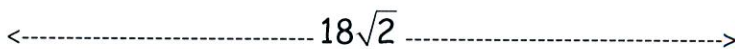
DC = 24 BC = 48

AB = $24\sqrt{2}$ AC = $24\sqrt{2}$

Perimeter of $\triangle ABC$ = $48\sqrt{2} + 48 \text{ yd}$

Area \square ABC = 576 yd

18.



DC = $9\sqrt{2}$ DB = $9\sqrt{2}$

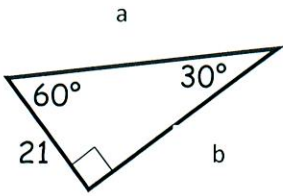
AD = $9\sqrt{2}$ AC = 18

Area \square ABC = $81\sqrt{4} = 162$

Perimeter of $\triangle ABC$ = $36 + 18\sqrt{2}$

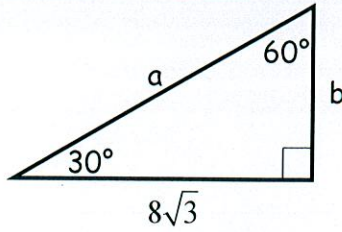
$$\frac{9\sqrt{2} \cdot \sqrt{2}}{2} = \frac{9\sqrt{4}}{2} = \frac{9 \cdot 2}{2} = 9$$

1.



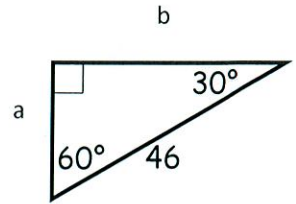
$a = 42$ $b = 21\sqrt{3}$

2.



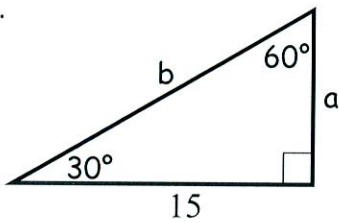
$a = 16$ $b = 8$

3.



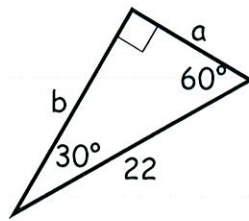
$a = 23$ $b = 23\sqrt{3}$

4.



$a = 5\sqrt{3}$ $b = 10\sqrt{3}$

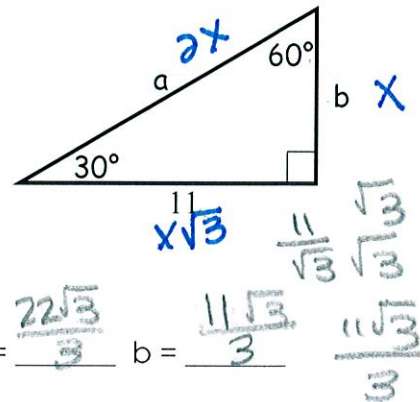
5.



$\frac{15 \cdot \sqrt{3}}{\sqrt{3} \cdot \sqrt{3}}$
 $\frac{15\sqrt{3}}{3}$

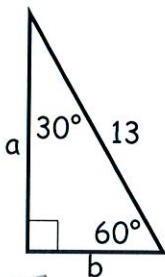
$a = 11$ $b = 11\sqrt{3}$

6.



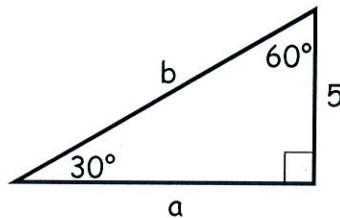
$\frac{22\sqrt{3}}{3}$ $b = \frac{11\sqrt{3}}{3}$
 $\frac{11}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}}$
 $\frac{11\sqrt{3}}{3}$

7.



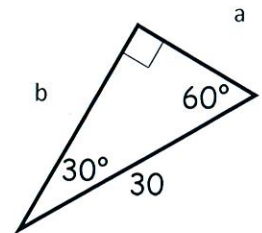
$a = 6.5\sqrt{3}$ $b = 6.5$

8.



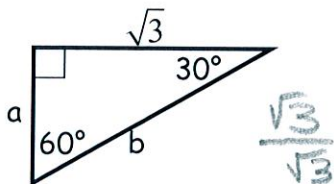
$a = 5\sqrt{3}$ $b = 10$

9.



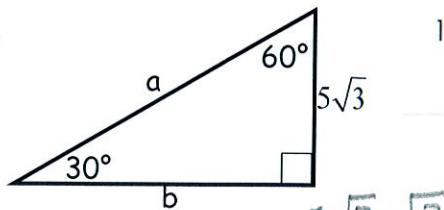
$a = 15$ $b = 15\sqrt{3}$

10.



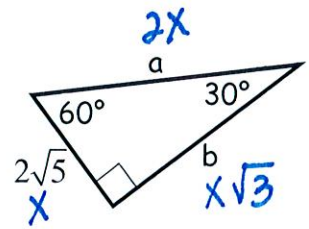
$a = 1$ $b = 2$

11.



$a = 10\sqrt{3}$ $b = 15$

12.



$a = 4\sqrt{5}$ $b = 2\sqrt{5}$
 $2\sqrt{5} \cdot \sqrt{3}$
 $2\sqrt{5}\sqrt{3}$

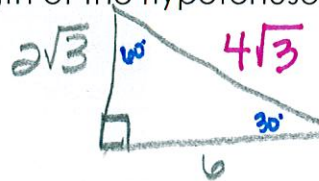
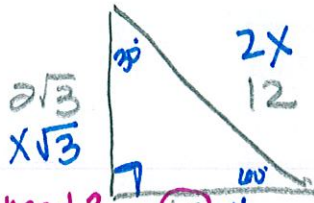
13) A parallelogram has sides that are 10 cm. and 20 cm. long. The measure of the acute angles of the parallelogram is 30° . What is the area of the parallelogram?



$$l \times w = 200 \text{ cm}$$

14) A triangle has the following characteristics: a 90° angle and side lengths measuring $2\sqrt{3}$ cm and 6 cm. Find the length of the hypotenuse.

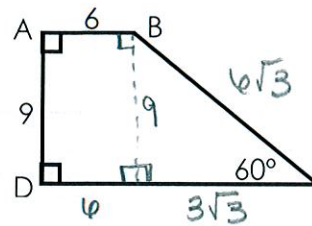
$$\frac{6}{\sqrt{3}} \cdot \sqrt{3} = \frac{6\sqrt{3}}{3}$$



15) Find the perimeter of trapezoid ABCD.

$$21 + 9\sqrt{3}$$

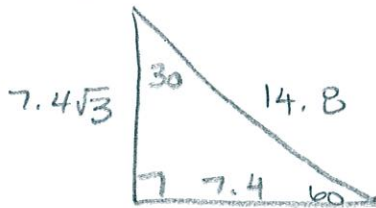
Would need 2



$$\frac{9\sqrt{3}}{\sqrt{3} \cdot \sqrt{3}}$$

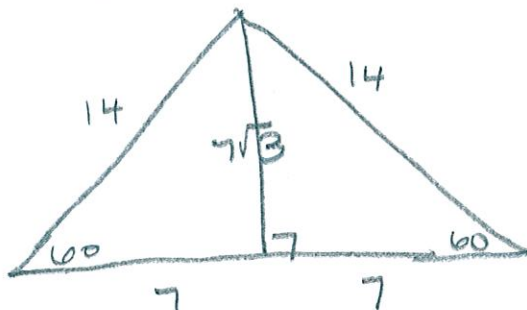
$$\frac{9\sqrt{3}}{3}$$

16) The shorter leg of a 30° - 60° - 90° triangle is 7.4 meters long. Find the perimeter.



$$22.2 + 7.4\sqrt{3} \text{ m}$$

17) Find the altitude of an equilateral triangle, if each side of the triangle has a length of 14 meters.



$$7\sqrt{3}$$