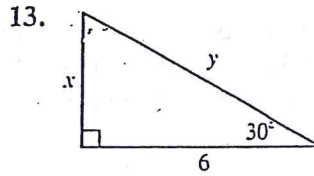
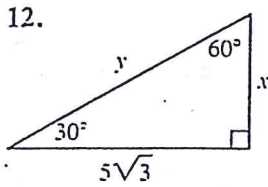
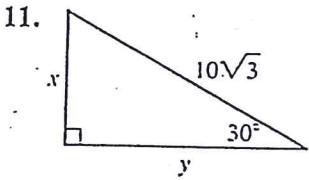
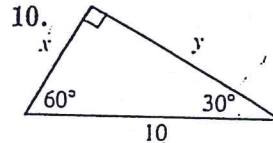
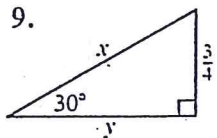
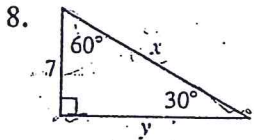
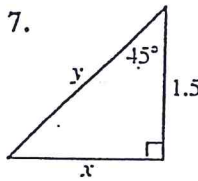
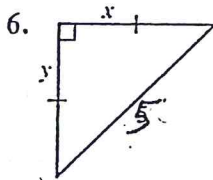
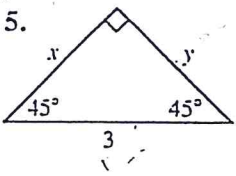
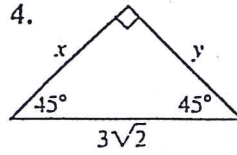
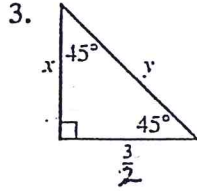
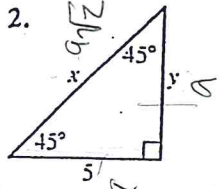
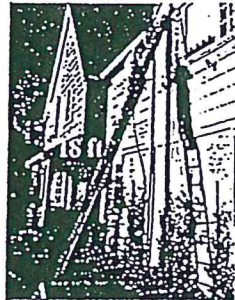


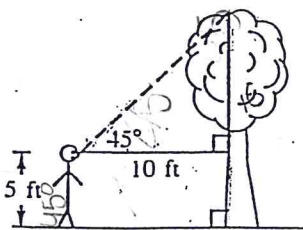
Find the missing lengths  $x$  and  $y$ .



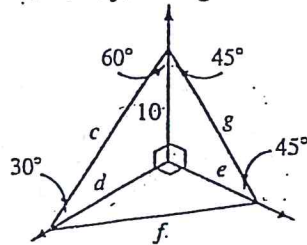
14. How far up the side of the house will this 18-ft ladder touch if the measure of  $\angle A$  is  $45^\circ$ ,  $60^\circ$ ,  $30^\circ$ ? Give answers in simplified radical form and in decimal form to the nearest hundredth.



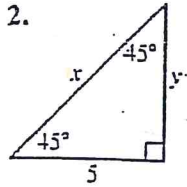
21. Find the height of the tree.



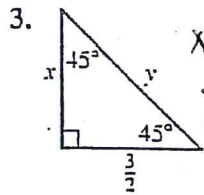
22. Find  $c$ ,  $d$ ,  $e$ ,  $f$ , and  $g$  in this corner.



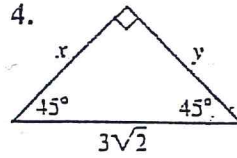
Find the missing lengths  $x$  and  $y$ .



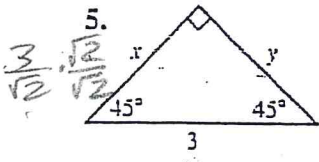
$x = 5\sqrt{2}$   
 $y = 5$



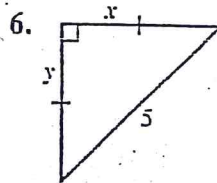
$x = \frac{3}{2}$   
 $y = \frac{3\sqrt{2}}{2}$   
or  $\frac{3\sqrt{2}}{2}$



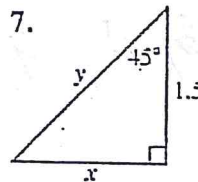
$x = 3$   
 $y = 3$



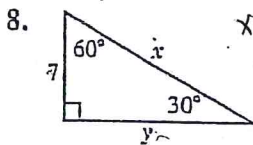
$x = \frac{3\sqrt{2}}{2}$   
 $y = \frac{3\sqrt{2}}{2}$



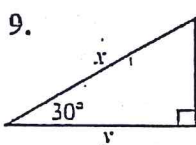
$x = y = \frac{5\sqrt{2}}{2}$



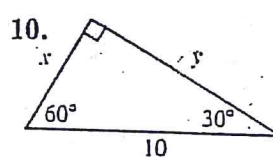
$x = 1.5$   
 $y = 1.5\sqrt{2}$   
or  $\frac{3\sqrt{2}}{2}$



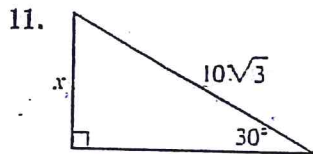
$x = 14$   
 $y = 7\sqrt{3}$



$x = \frac{3}{2}$   
 $y = \frac{3\sqrt{3}}{4}$   
or  $\frac{3\sqrt{3}}{4}$

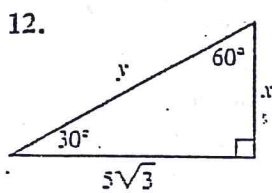


$x = 5$   
 $y = 5\sqrt{3}$

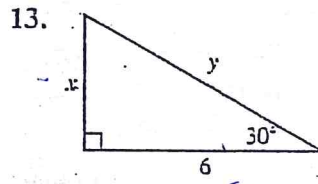


$5\sqrt{3} \cdot \sqrt{3} = 5 \cdot 3 = 15$

$x = 5\sqrt{3}$   
 $y = 15$



$x = 5$   
 $y = 10$



$x = 2\sqrt{3}$   
 $y = 4\sqrt{3}$

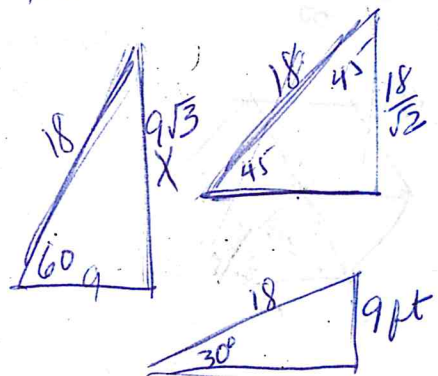
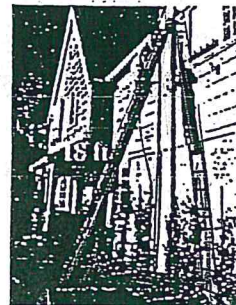
$x = \frac{6}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{6\sqrt{3}}{3} = 2\sqrt{3}$

14. How far up the side of the house will this 18-ft ladder touch if the measure of  $\angle A$  is  $45^\circ$ ?  $60^\circ$ ?  $30^\circ$ ? Give answers in simplified radical form and in decimal form to the nearest hundredth.

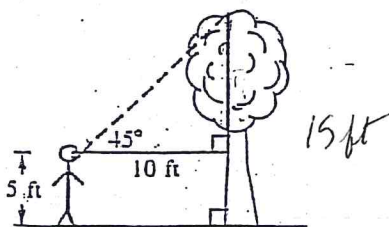
$\angle A = 45^\circ$   $\frac{18}{\sqrt{2}} = 9\sqrt{2}$  or  $12.728$  or  $12.73$

$\angle A = 60^\circ$   $9\sqrt{3}$  or  $15.588$  or  $15.59$

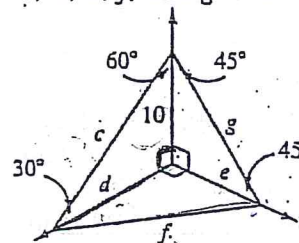
$\angle A = 30^\circ$   $9$  ft



21. Find the height of the tree.



22. Find  $c$ ,  $d$ ,  $e$ ,  $f$ , and  $g$  in this corner.



$c = 20$   
 $d = 10\sqrt{3}$   
 $e = 10$   
 $f = 20$   
 $g = 10\sqrt{2}$