

# carlys

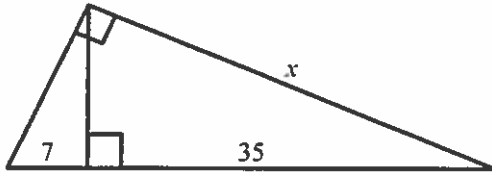
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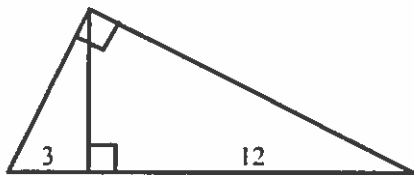
### Advanced Geometry, Chapter 7 Test

1. Find the area of the isosceles triangle with side lengths 14 inches, 25 inches, and 25 inches.

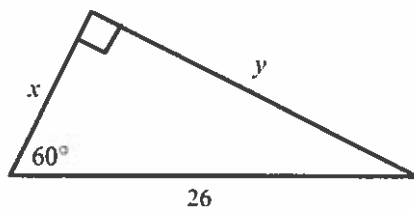
2. Find the value of  $x$ . (geometric mean)



3. Find the length of the altitude drawn to the hypotenuse. (geometric mean)



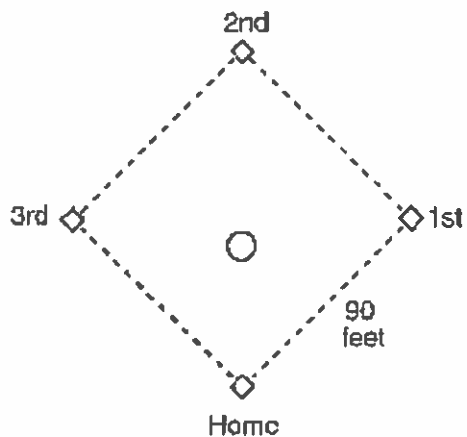
4. Find the value of  $x$  and  $y$ . (30, 60, 90)



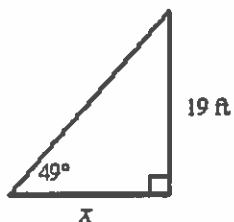
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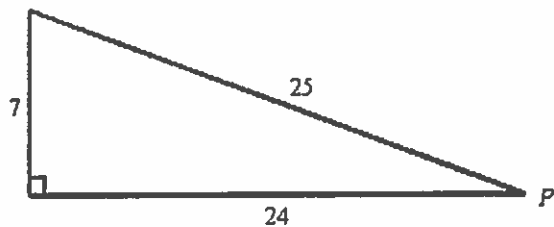
5. A baseball "diamond" is a square of side length 90 feet. How far is the throw, to one decimal place, from home plate to second base?



6. A tree 19 feet tall casts a shadow which forms an angle of  $49^\circ$  with the ground. How long is the shadow to the nearest hundredth?



7. (3 points) Find  $\sin P$ ,  $\cos P$ ,  $\tan P$ .



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(next three problems) Find the measure of an acute angle that satisfies the given equation. Round your answers to the nearest tenth of a degree.

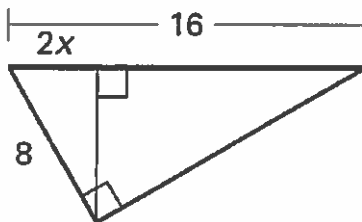
8.  $\cos Z = \frac{12}{13}$

9.  $\tan Y = \frac{40}{9}$

10.  $\sin X = \frac{6}{11}$

11. Find the missing angle and side measures of  $\triangle ABC$ , given that  $m\angle A = 65^\circ$ ,  $m\angle C = 90^\circ$ , and  $CB = 15$ .

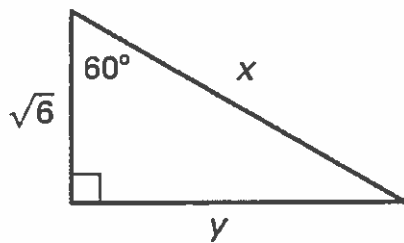
12. Find the value of  $x$ . (geometric mean)



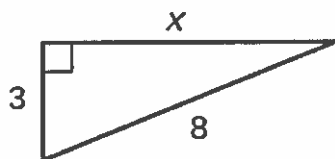
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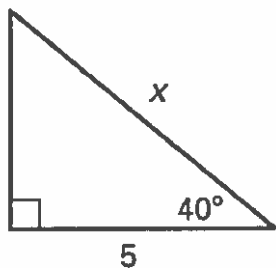
13. (30, 60, 90) Find the value of each variable.



14. Find the value of  $x$ .



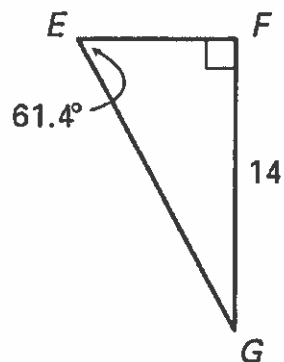
15. Find the value of  $x$ .



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16. (2 points) Solve the right triangle. Round your answer to the nearest tenth.



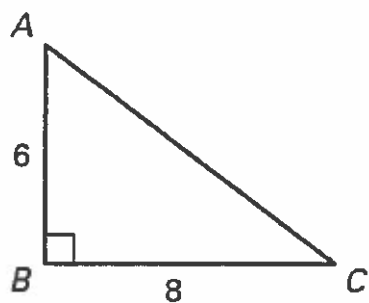
17. Classify the triangle as *acute*, *right*, or *obtuse*.

9, 15,  $10\sqrt{3}$

18. Classify the triangle as *acute*, *right*, or *obtuse*.

3.1, 4.5, 5.2

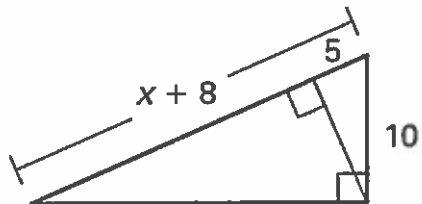
19. Solve the right triangle. Round your answer to the nearest tenth.



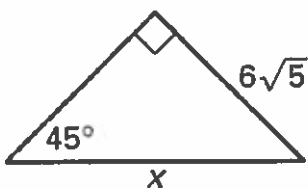
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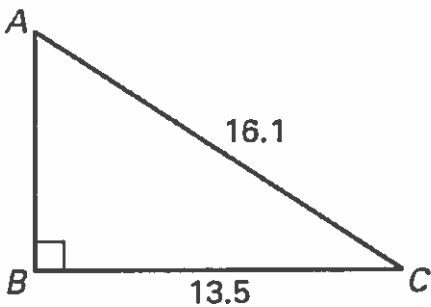
20. Find the exact value of  $x$ . (geometric mean)



21. (45, 45, 90) Find the value of each variable.



22. (2 points) Solve the right triangle. Round decimal answers to the nearest tenth.

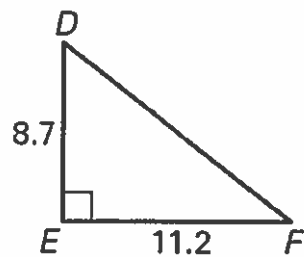




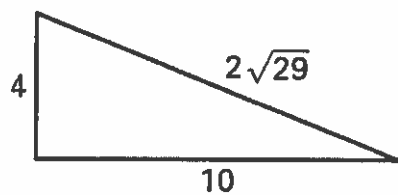
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23. Find the measure of  $\angle D$  to the nearest tenth of a degree.



24. (Bonus) Tell whether the triangle is a right triangle. If so, find the length of the altitude to the hypotenuse. Round decimal answers to the nearest tenth.



**Advanced Geometry, Chapter 7 Test  
Answer Section**

1.  $168 \text{ in.}^2$
2.  $7\sqrt{30}$
3. 6
4.  $x = 13, y = 13\sqrt{3}$
5. 127.3 ft
6. 16.52 ft
7.  $\sin P = \frac{7}{25}, \cos P = \frac{24}{25}, \tan P = \frac{7}{24}$
8.  $m\angle Z \approx 22.6^\circ$
9.  $m\angle Y \approx 77.3^\circ$
10.  $m\angle X \approx 33.1^\circ$
11.  $m\angle B = 25^\circ, c = 16.6, b = 7$
12. 2
13.  $x = 2\sqrt{6}, y = 3\sqrt{2}$
14.  $\sqrt{55}$
15.  $x \approx 6.5$
16.  $EG \approx 16.5, EF \approx 7.9, m\angle G \approx 28.6^\circ$
17. acute
18. acute
19.  $AC = 10, m\angle A = 53.1^\circ, m\angle C = 36.9^\circ$
20. 12
21.  $x = 6\sqrt{10}$
22.  $c \approx 8.8, m\angle A = 57^\circ, m\angle C = 33^\circ$
23.  $52.2^\circ$
24. yes; altitude = 3.7