Name: _____   **Date:** _____
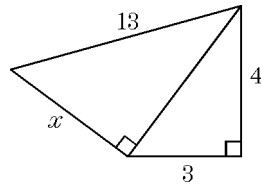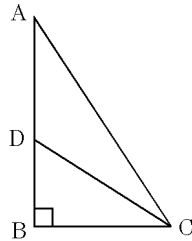
w5k5weyd

1. Find the length of side *x*.

    A. 10   B. 12
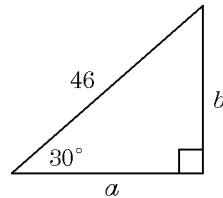
    C. 144   D. 194

2. In the diagram, *AB* = 15, *DB* = 6, and *BC* = 8. If $m\angle B = 90°$, what is the perimeter of triangle *ADC*?

    A. 24   B. 36

    C. 42   D. 60

3. Find *b*.
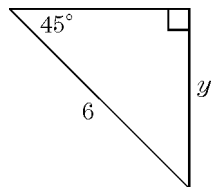
    A. 92   B. 76

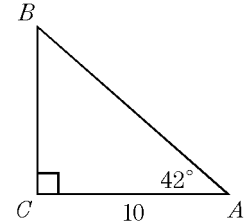   C. 23   D. 16

4. Find the exact value of *y*.

    A. $\sqrt{6}$ B. 3

    C. $2\sqrt{3}$ D. $3\sqrt{2}$
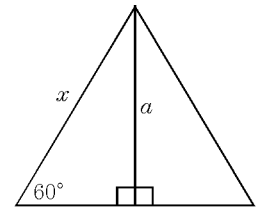
5. What is the length of side $\overline{BC}$ to one decimal place?

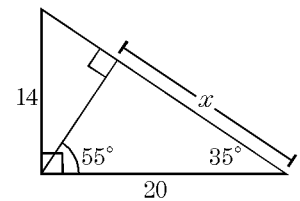   A. 6.7   B. 9.0

    C. 11.1   D. 14.9

6. Solve for the altitude *a* in terms of *x*.

    A. $3\sqrt{x}$ B. $\dfrac{x}{2}$

    C. $\dfrac{x\sqrt{2}}{2}$ D. $\dfrac{x\sqrt{3}}{2}$
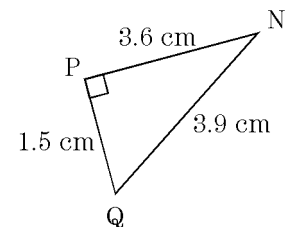
7. Which of the following equations can be used to find the length of *x*?

    A. $\sin 35° = \dfrac{x}{14}$

    B. $\sin 35° = \dfrac{14}{x}$

    C. $\cos 35° = \dfrac{x}{20}$
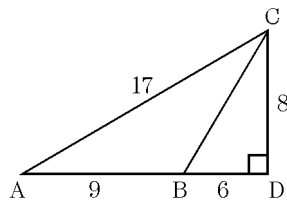
    D. $\tan 55° = \dfrac{x}{30}$

8. In $\triangle NPQ$, calculate $\angle N$ to the nearest degree.

    A. 23°   B. 33°

    C. 65°   D. 67°
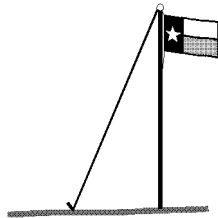
9. What is the measure of ∠BCD to the nearest degree?
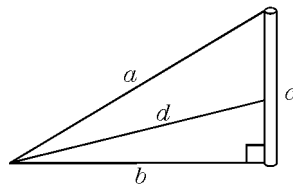
    A. 27°   B. 37°

    C. 53°   D. 54°

10. The angle of elevation to the top of a flagpole is 52°. If the angle of elevation was measured 23 m from the center of the flagpole's base, what is its height to 1 decimal place?

    A. 14.2 m   B. 18.0 m

    C. 29.4 m   D. 37.4 m

11. In this diagram the height of the pole is 8 m and side $b = 12$ m. What is the angle of elevation?

    A. 25.2°

    B. 33.7°

    C. 41.8°

    D. 56.3°

12. A park ranger is watching a bear from the top of a 14 m tower. If the angle of depression to the bear is 62°, what is the distance from the bear to the base of the tower?
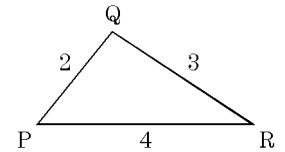
    A. 12.4 m   B. 26.3 m

    C. 30.8 m   D. 36.9 m

13. The angle of depression from the top of a 100 m building to a parked car is 10°. How far is the car from the bottom of the building?

    A. $\dfrac{100}{\tan 10°}$ B. $100 \sin 10°$

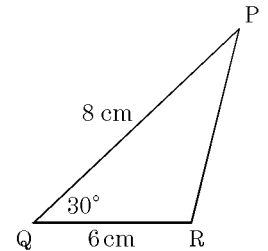   C. $100 \tan 10°$ D. $100 \sin 80°$

14. What is the exact value of $\cos \angle QPR$?

    A. $\frac{3}{16}$ B. $\frac{7}{16}$

    C. $\frac{11}{16}$ D. $\frac{29}{16}$

15. In triangle PQR, $PQ = 8$ cm, $QR = 6$ cm, and $m\angle PQR = 30°$. Exactly how long is $\overline{PR}$?

    A. $100 - 48\sqrt{3}$

    B. $\sqrt{100 - 48\sqrt{3}}$

    C. 52

    D. $10 - 4\sqrt{3}$

16. If $\sin R = \frac{1}{4}$ and $\sin Q = \frac{2}{3}$, then what is the length of $\overline{PQ}$ in centimeters?

    A. $\frac{5}{6}$ B. $\frac{15}{8}$

    C. $\frac{40}{3}$ D. 30
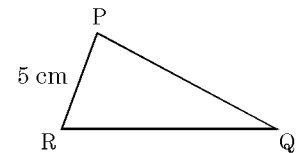
17. What is the length of $\overline{AB}$ in meters?

    A. 1   B. $\sqrt{3}$

    C. 4   D. $2\sqrt{3}$

Precal - Solving Triangles

18. In the triangle below, what is the measure of $\overline{PQ}$?
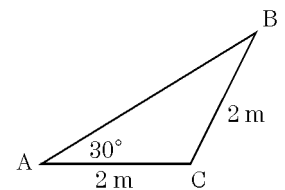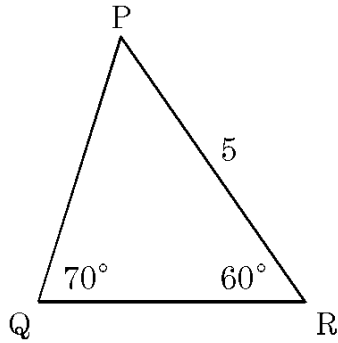

A. $\dfrac{5}{\sin 70^\circ}$ B. $\dfrac{5\sin 70^\circ}{\sin 60^\circ}$

C. $\dfrac{5\sin 60^\circ}{\sin 70^\circ}$ D. $\dfrac{5}{\sin 60^\circ \sin 70^\circ}$

19. In the triangle, what is the measure of $\overline{QR}$?

A. $\dfrac{5}{\sin 50^\circ}$ B. $\dfrac{5\sin 50^\circ}{\sin 70^\circ}$

C. $\dfrac{5}{\sin 70^\circ}$ D. $\dfrac{5}{\sin 50^\circ \sin 70^\circ}$

20. A radar tracking station locates a fishing trawler at a distance of 6.7 km and a passenger ferry at a distance of 8.3 km. At the station, the angle between the two boats is 97°. How far apart are the two ships?

A. 10.7 km B. 11.0 km

C. 11.3 km D. 127.3 km

21. To 1 decimal place, what is the length of $\overline{AC}$?
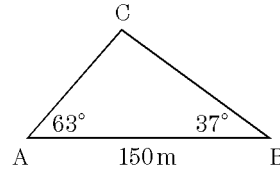
22. In $\triangle ABC$ it is given that $AB = 19$, $m\angle B = 110^\circ$, and that $m\angle C = 20^\circ$. To 1 decimal place, how long are $\overline{AC}$ and $\overline{BC}$?

Precal - Solving Triangles   03/30/2015

1.
Answer: B
Objective: G.SRT.8

2.
Answer: B
Objective: G.SRT.8

3.
Answer: C
Objective: G.SRT.8

4.
Answer: D
Objective: G.SRT.8

5.
Answer: B
Objective: G.SRT.8

6.
Answer: D
Objective: G.SRT.8

7.
Answer: C
Objective: G.SRT.8

8.
Answer: A
Objective: G.SRT.8

9.
Answer: B
Objective: G.SRT.8

10.
Answer: C
Objective: G.SRT.8

11.
Answer: B
Objective: G.SRT.8

12.
Answer: B
Objective: G.SRT.8

13.
Answer: A
Objective: G.SRT.8

14.
Answer: C
Objective: G.SRT.10

15.
Answer: B
Objective: G.SRT.11

16.
Answer: B
Objective: G.SRT.11

17.
Answer: D
Objective: G.SRT.11

18.
Answer: C
Objective: G.SRT.11

19.
Answer: B
Objective: G.SRT.11

20.
Answer: C
Objective: G.SRT.11

21.
Answer: 91.7
Objective: G.SRT.11

22.
Answer: $\overline{AC} = 52.2$ and $\overline{BC} = 42.6$
Objective: G.SRT.11