ACC. Coordinate Algebra
28.2—Solving Right Triangles

NAME _____

Let $\angle A$ be an acute angle in a right triangle. Approximate the measure of $\angle A$ to the nearest tenth of a degree.

1. sin A = 0.36

$\sin^{-1}(.36) = 21.1$

2. tan A = 0.8

$\tan^{-1}(.8) = 38.7$

3. cos A = 0.35

$\cos^{-1}(.35) = 69.5$

4. tan A = 0.42

$\tan^{-1}(.42) = 22.8$

5. cos A = 0.11

$\cos^{-1}(.11) = 83.7$

6. sin A = 0.94

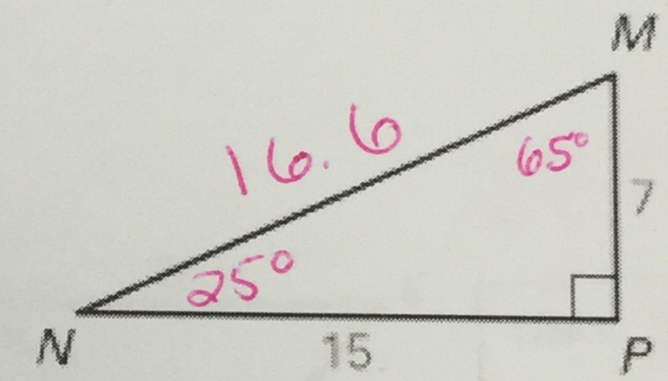
$\sin^{-1}(.94) = 70.1$

Use the diagram to find the indicated measurement. Round your answer to the nearest tenth.

5. *MN* Puthagorean Thm $\sqrt{7^2 + 15^2} \approx 16.6$

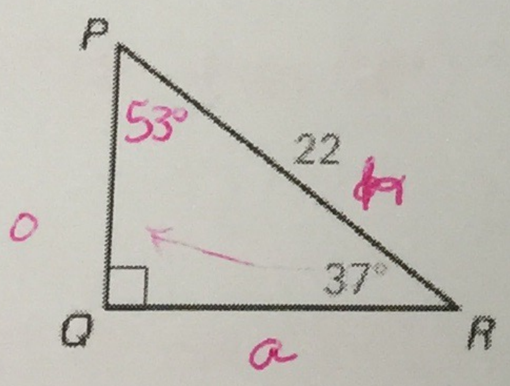
6. $m\angle M$ $\tan^{-1}\left(\frac{15}{7}\right) \approx 65°$

7. $m\angle N$ $\tan^{-1}\left(\frac{7}{15}\right) \approx 25°$



Solve each right triangle. Round decimal answers to the nearest tenth.

8.



PQ = 13.2

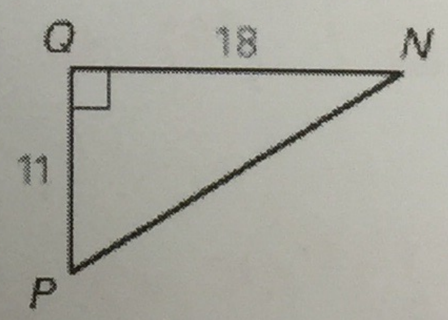
QR = 17.6

$\angle P$ = 53°
180-90-37

$\sin(37) = \frac{o}{22} \approx 13.2$

$\cos(37) = \frac{a}{22} \approx 17.6$

9.



PN = 21.1

$\angle N$ = 31.4°

$\angle P$ = 58.6°

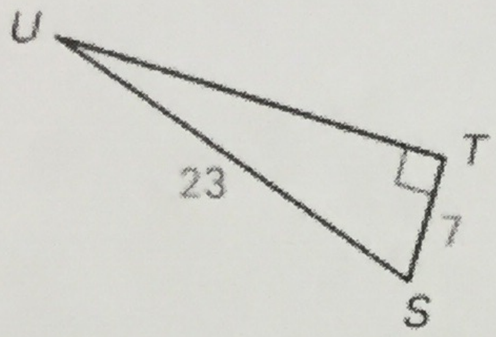
$PN = \sqrt{11^2 + 18^2} \approx 21.1$

$\angle N = \tan^{-1}\left(\frac{11}{18}\right) \approx 31.4$

$\angle P = \tan^{-1}\left(\frac{18}{11}\right) \approx 58.6$

Solve each right triangle. Round decimal answers to the nearest tenth.

10.



$\sqrt{23^2-7^2}$

UT = 21.9

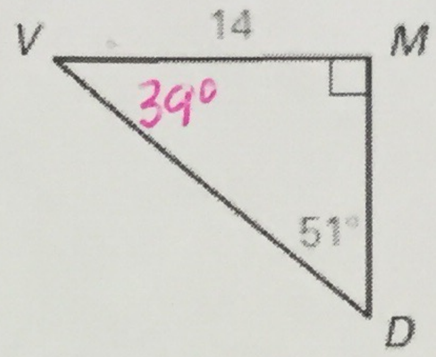
$\angle S$ = 72.3°

$\angle U$ =

$\angle S \Rightarrow \cos^{-1}\left(\frac{7}{23}\right) \approx 72.3°$

$\angle U \Rightarrow \sin^{-1}\left(\frac{7}{23}\right) \approx 17.7°$

11.



MD = 11.3

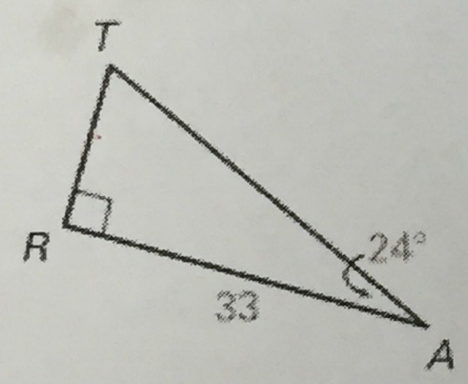
DV = 18

$\angle V$ = 39°

$MD \Rightarrow \tan(51) = \frac{14}{x} \approx 11.3$

$DV \Rightarrow \sin(51) = \frac{14}{x} \approx 18$

12.



RT = 14.7

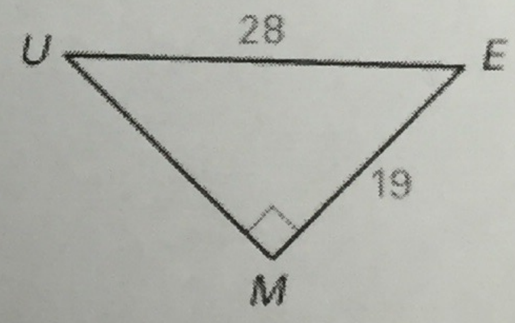
AT = 36.1

$\angle T$ = 66°

$RT \Rightarrow \tan(24) = \frac{x}{33} \approx 14.7$

$AT \Rightarrow \cos(24) = \frac{33}{x} \approx 36.1$

13.



$\sqrt{28^2-19^2}$

UM = 20.6

$\angle E$ = 47.3°

$\angle U$ = 42.7°

$\angle E \Rightarrow \cos^{-1}\left(\frac{19}{28}\right) \approx 47.3°$

$\angle U \Rightarrow \sin^{-1}\left(\frac{19}{28}\right) \approx 42.7$