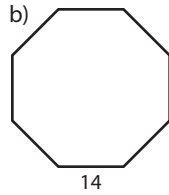
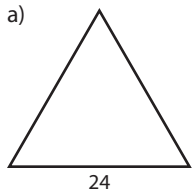


Name:

### 4-A Special Right Triangles

1. Find the area of the regular polygons below. Simplify answers, and then round them to the nearest whole.



### 4-B Trigonometric Functions in Right Triangles

2. State the value of each of the following trig functions for the triangle at right.

a)  $\cos A$

b)  $\sin B$

c)  $\tan A$

d)  $\sec A$

e)  $\cot B$

f)  $\csc A$

3. Calculate.

a)  $\tan 30^\circ$

b)  $\cot 30^\circ$

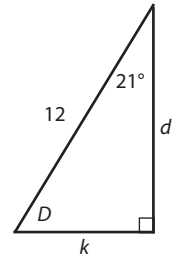
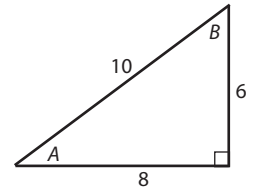
c)  $\csc 8^\circ$

4. Write and solve an equation for each of the following values.

a)  $D$

b)  $d$

c)  $k$



5. Find the height of a tree casting a 16-meter shadow when the sun is  $19^\circ$  above the horizon.

### 4-C Inverse Trigonometric Functions in Right Triangles

6. State the value of each of the following functions for the triangle at right, or write "n/a".

a)  $\sin A$

b)  $\sin^{-1} \frac{b}{c}$

c)  $\sin^{-1} \frac{c}{a}$

d)  $\sin^{-1} B$

e)  $\cos^{-1} \frac{b}{c}$

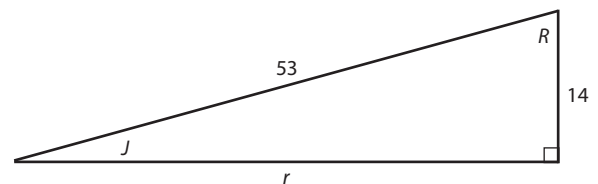
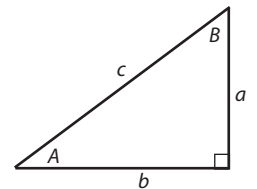
f)  $\tan^{-1} \frac{b}{a}$

7. Write and solve an equation for each of the following values.

a)  $J$

b)  $r$

c)  $R$



8. A loading dock is 80 centimeters above the ground, and a 275-centimeter ramp connects it with the ground.

a) Find the slope of the ramp.

b) What is the angle between the ground and the ramp?