ALG 2 TRIG – DAY 5
REVIEW SECT 13.1 – 13.3 *(DEGREES)* **NAME** Key

Use the unit circle to draw the triangle in the correct quadrant and find the **exact** *trig value. Make sure to check the sign (+ or -) of your answer. No calculators!*

1. $\sin 150^\circ$

2. $\cos 135^\circ$

3. $\tan 210^\circ$

4. $\sin 315^\circ$

5. $\csc 30^\circ$

6. $\cot 240^\circ$

7. $\sin 300^\circ$

8. $\cos 45^\circ$

9. $\sec 120^\circ$

10. $\tan 330^\circ$

11. $\tan 0^\circ$

12. $\sin 90^\circ$

13. csc 270°

14. cos 180°

In #15 and 16, give the values of the other trig functions. Then find the measure of reference angle (β) and rotation angle (θ). Finally, sketch the rotation.

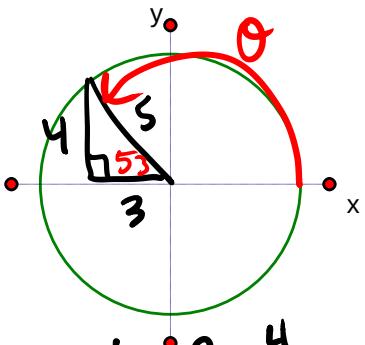
15. cos θ = $\frac{-3}{5}$ and θ in Quadrant II.

sin θ = 4/5

tan θ = -4/3

β = 53°

θ = 127°



tan B = 4/3

B = 53°

180 - 53

16. sin θ = – $\frac{24}{25}$ and tan θ < 0

sin θ = -24/25

tan θ = -24/7

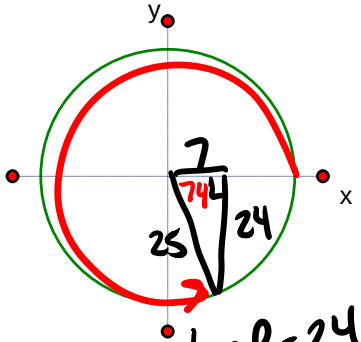
β = 74°

θ = 286°

360 - 74

sin = neg (Q3 + Q4)

tan = negative (Q2 + Q4)



tan B = 24/7

B = 74°

For #17 and 18, find the coordinates of the terminal point, rounding to the nearest integer.

17. r = 121
θ = 152°

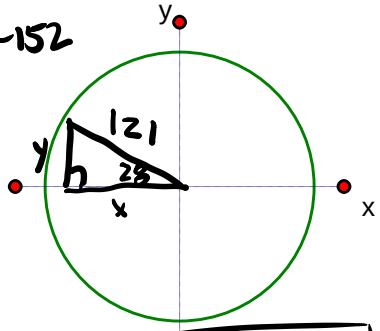
180 - 152

cos 28 = x/121

x = 107

sin 28 = y/121

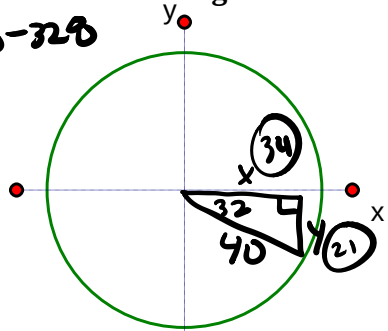
y = 57



(-107, 57)

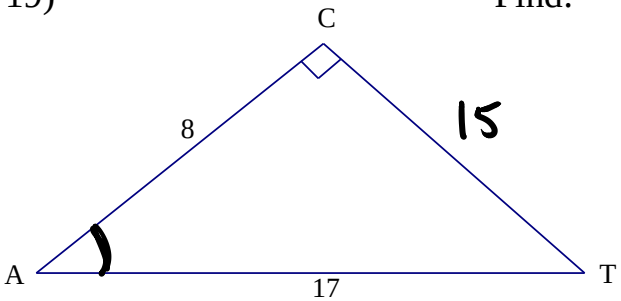
18. r = 40
θ = 328°

360 - 328



(34, -21)

19)



Find:

sin ∠A = 15/17

cos ∠A = 8/17

cot ∠A = 8/15

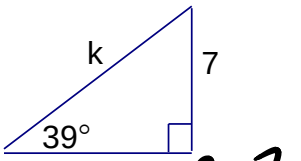
csc ∠A = 17/15

sec ∠A = 17/8

tan ∠A = 15/8

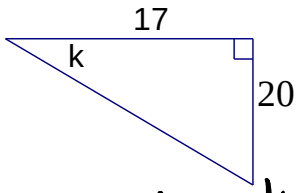
Solve for k.

20) k = 11.1



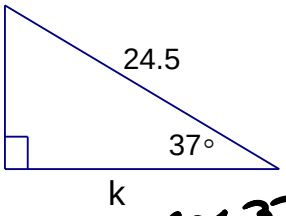
$\sin 39 = \frac{7}{k}$

21) k = 50°



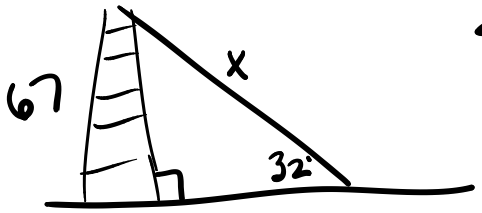
$\tan k = \frac{20}{17}$

22) k = 19.6



$\cos 37 = \frac{k}{24.5}$

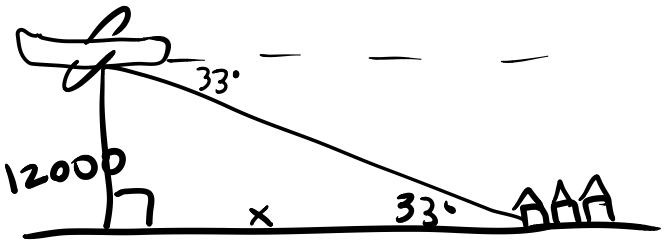
23) A radio tower is 67 feet tall. If a wire from the top of the tower meets the ground at a 32º angle (an angle of elevation). How long is the wire?



$\sin 32 = \frac{67}{x}$

$x = 126.4$ ft

24) From a plane flying 12,000 feet above the ground, a small town is spotted at an angle of depression of 33°. How far is the town from the spot on the ground directly below the plane?



$\tan 33 = \frac{12000}{x}$

$x = 18,478.4$ ft

25) In the problem, **tan 46**, what does the number 46 represent? 25) b

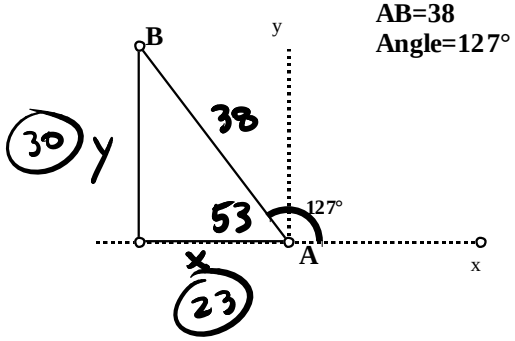
a) a side of a right triangle
b) an angle of a right triangle
c) the ratio of the sides of a right triangle
d) all of the above

26) Find the reference angle and the coordinates of B (3 points)

Ref angle $180 - 127 = 53°$

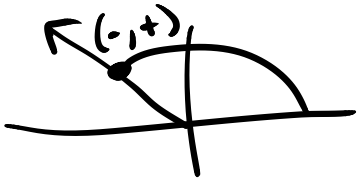
Coordinates of B $(-23, 30)$

AB=38
Angle=127°



27) Give an example of coordinates of a terminal point if the rotation angle (the angle in standard position) is obtuse:

Q2



27) example: $(-5, 5)$