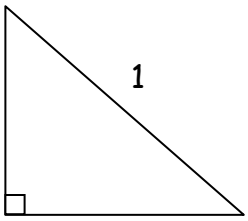
PreCalculus Trigonometry Name_____

Convenient Coordinates

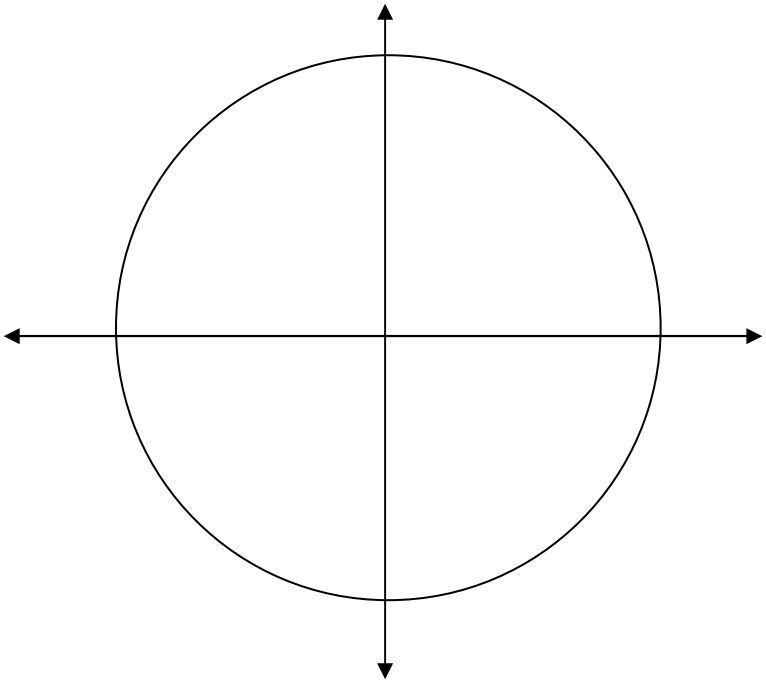
On the unit circle

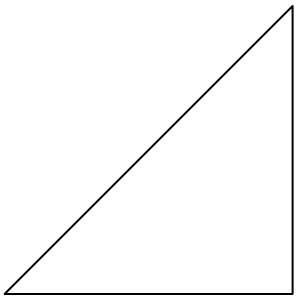
Use an isosceles right triangle whose hypotenuse is 1 unit, and the Pythagorean Theorem to calculate the exact length of the legs.

1)



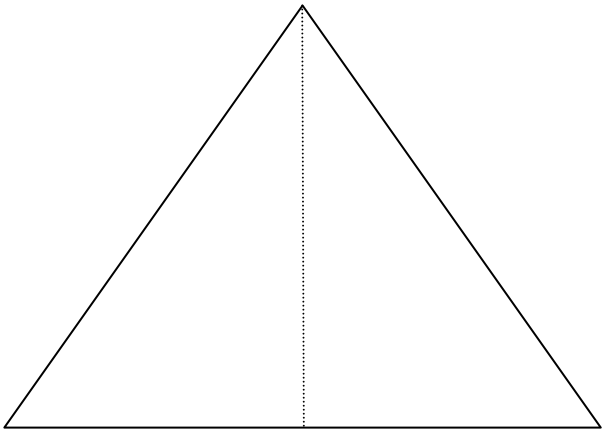
Using an isosceles right triangle we can determine 4 points on the unit circle.



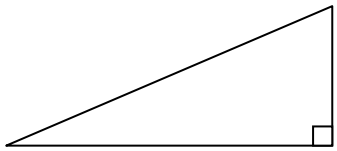


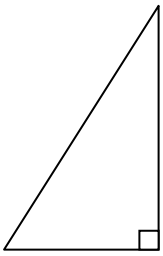
Use an equilateral triangle to create two $30^0 - 60^0 - 90^0$ triangles. Assume the hypotenuse is 1 unit. Calculate the exact length of both legs.

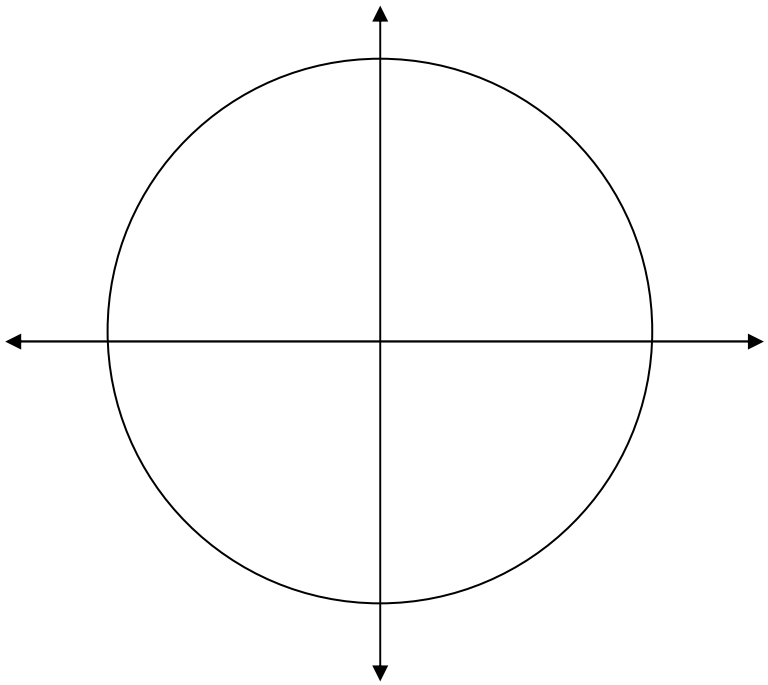
2)

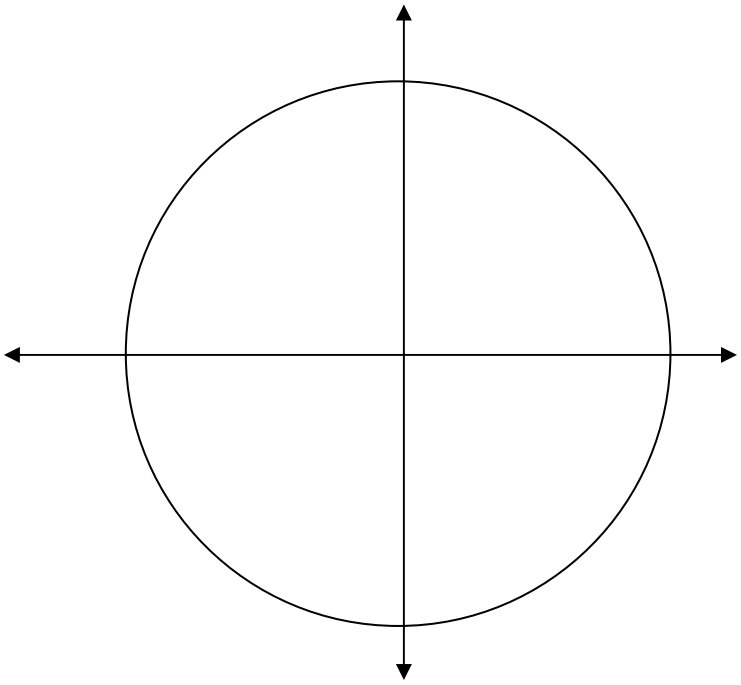


Using a $30^0 - 60^0 - 90^0$ triangle we can determine 8 points on the unit circle.









Give the coordinates of the terminal point on the unit circle determined by the given number of degrees. Also state the "reference angle" you used to determine the coordinates.

Reference Angle:

1. $t = 150^0$
2. $t = 60^0$
3. $t = 225^0$
4. $t = 330^0$
5. $t = -120^0$
6. $t = -315^0$
7. $t = 210^0$
8. $t = -240^0$
9. $t = -135^0$
10. $t = -210^0$
11. $t = 135^0$
12. $t = -330^0$
13. $t = 240^0$
14. $t = 30^0$
15. $t = -30^0$
16. $t = -225^0$
17. $t = 300^0$
18. $t = 120^0$
19. $t = -300^0$
20. $t = 45^0$
21. $t = -150^0$
22. $t = -60^0$
23. $t = -45^0$
24. $t = 315^0$