Part 1

1121 Skill Review 8

REVIEW16.tex

Exercise **1** *Fill in the missing exponents in the following equations.*

$$\frac{x^2 y^3}{x^5} = \frac{y^{\boxed{3}}}{x^{\boxed{3}}}$$

$$\frac{x^2 y^3}{x^5} = \frac{1}{x^{\boxed{3}} y^{\boxed{-3}}}$$

$$\frac{x^2 y^3}{x^5} = \frac{y^{\boxed{3}} x^{\boxed{-3}}}{1}$$

$$\frac{x^2 y^3}{x^5} = \frac{x^{\boxed{-3}}}{y^{\boxed{-3}}}$$

REVIEW17.tex
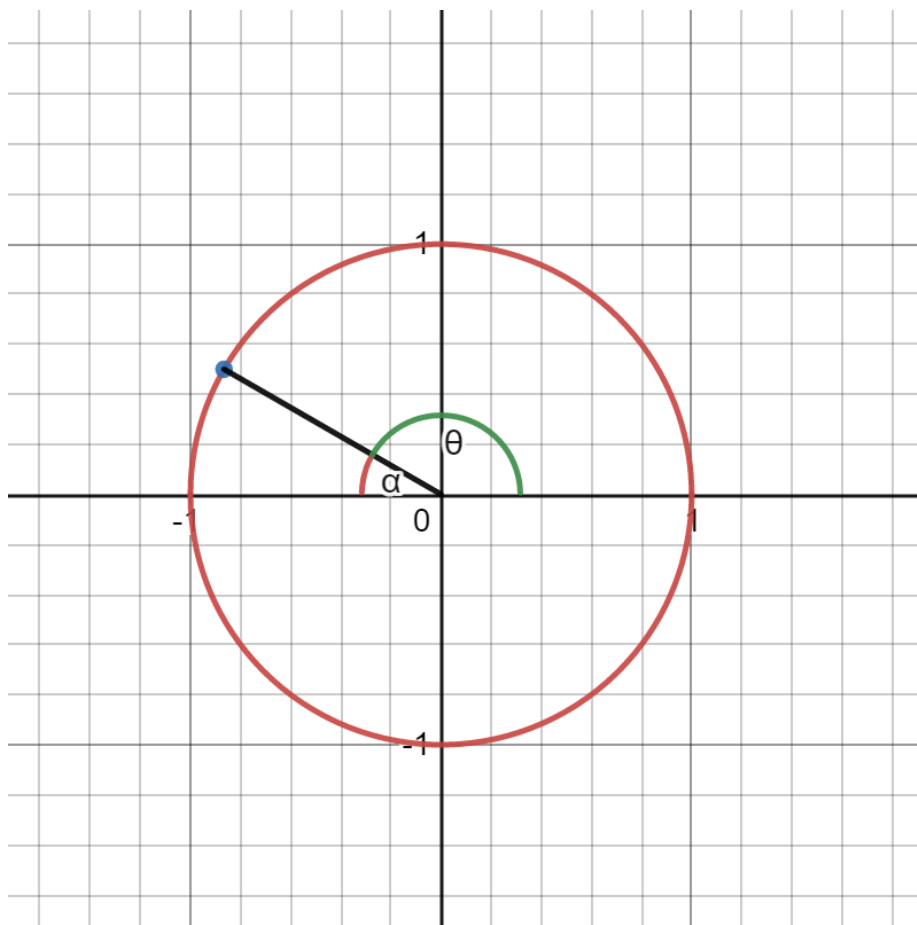
Exercise **2** *Simplify the following radical expressions.*

(a) $\sqrt{50} = \boxed{5}\sqrt{\boxed{2}}$

(b) $\sqrt{360} = \boxed{6}\sqrt{\boxed{10}}$

(c) $\sqrt{72x^2 y^3} = \boxed{6xy}\sqrt{\boxed{2y}}$

(d) $\sqrt{48x^4 zy^5} = \boxed{4x^2 y^2}\sqrt{\boxed{3zy}}$

TRIG1.tex

Exercise **3** *Use the graph below to help you answer the following questions.*

$$\theta = \frac{5\pi}{6}$$

What Quadrant is θ in?

Multiple Choice:

(a) *I*

(b) *II* ✓

(c) *III*

(d) *IV*

What is the value of the reference angle α?

$\alpha = \boxed{\dfrac{\pi}{6}}$

What are the values of $\cos(\alpha)$ and $\sin(\alpha)$?

$\cos(\alpha) = (+ \checkmark / -) \ (0 / 1 / \dfrac{\sqrt{2}}{2} / \dfrac{1}{2} / \dfrac{\sqrt{3}}{2} \ \checkmark)$

$\sin(\alpha) = (+ \checkmark / -) \ (0 / 1 / \dfrac{\sqrt{2}}{2} / \dfrac{1}{2} \ \checkmark / \dfrac{\sqrt{3}}{2})$
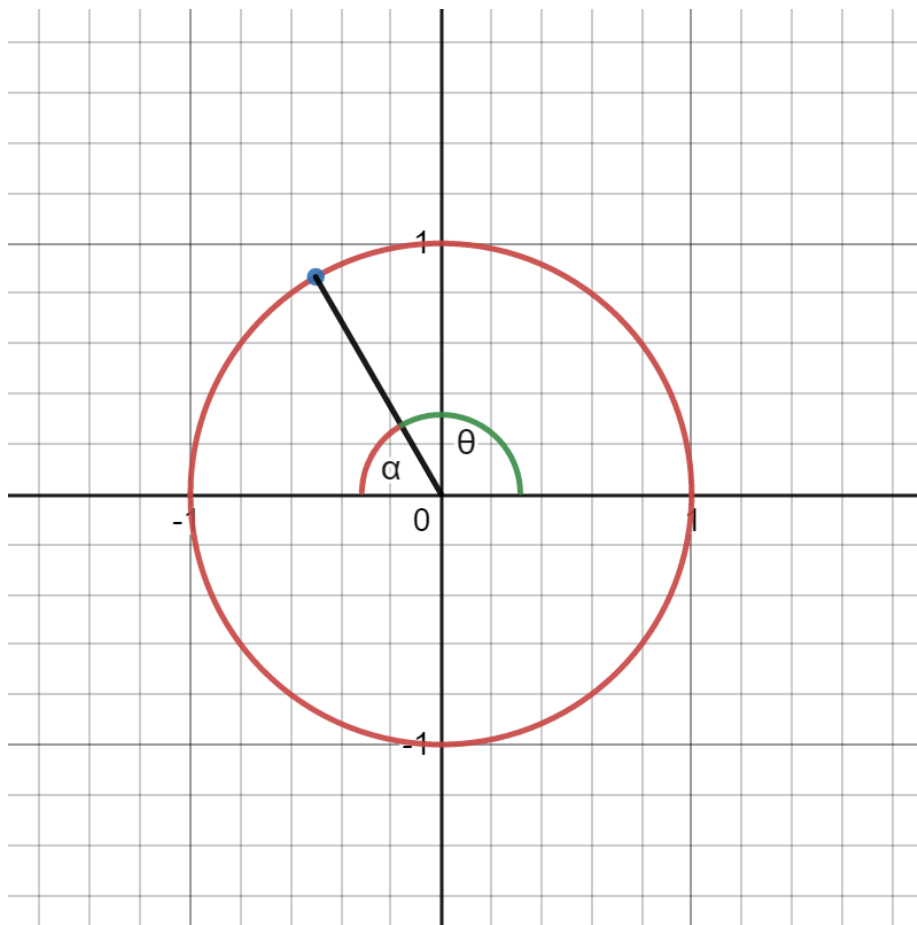
What are the values of $\cos(\theta)$ and $\sin(\theta)$?

$\cos(\theta) = (+ / - \ \checkmark) \ (0 / 1 / \dfrac{\sqrt{2}}{2} / \dfrac{1}{2} / \dfrac{\sqrt{3}}{2} \ \checkmark)$

$\sin(\theta) = (+ \checkmark / -) \ (0 / 1 / \dfrac{\sqrt{2}}{2} / \dfrac{1}{2} \ \checkmark / \dfrac{\sqrt{3}}{2})$

TRIG4.tex

Exercise 4 *Use the graph below to help you answer the following questions.*

$$\theta = \frac{2\pi}{3}$$

What Quadrant is θ in?

Multiple Choice:

(a) I

(b) II ✓

(c) III

(d) IV

What is the value of the reference angle α?

$\alpha = \boxed{\dfrac{\pi}{3}}$

What are the values of $\cos(\alpha)$ and $\sin(\alpha)$?

$\cos(\alpha) = (+ \checkmark / -) \ (0 / 1 / \frac{\sqrt{2}}{2} / \frac{1}{2} \checkmark / \frac{\sqrt{3}}{2})$

$\sin(\alpha) = (+ \checkmark / -) \ (0 / 1 / \frac{\sqrt{2}}{2} / \frac{1}{2} / \frac{\sqrt{3}}{2} \checkmark)$
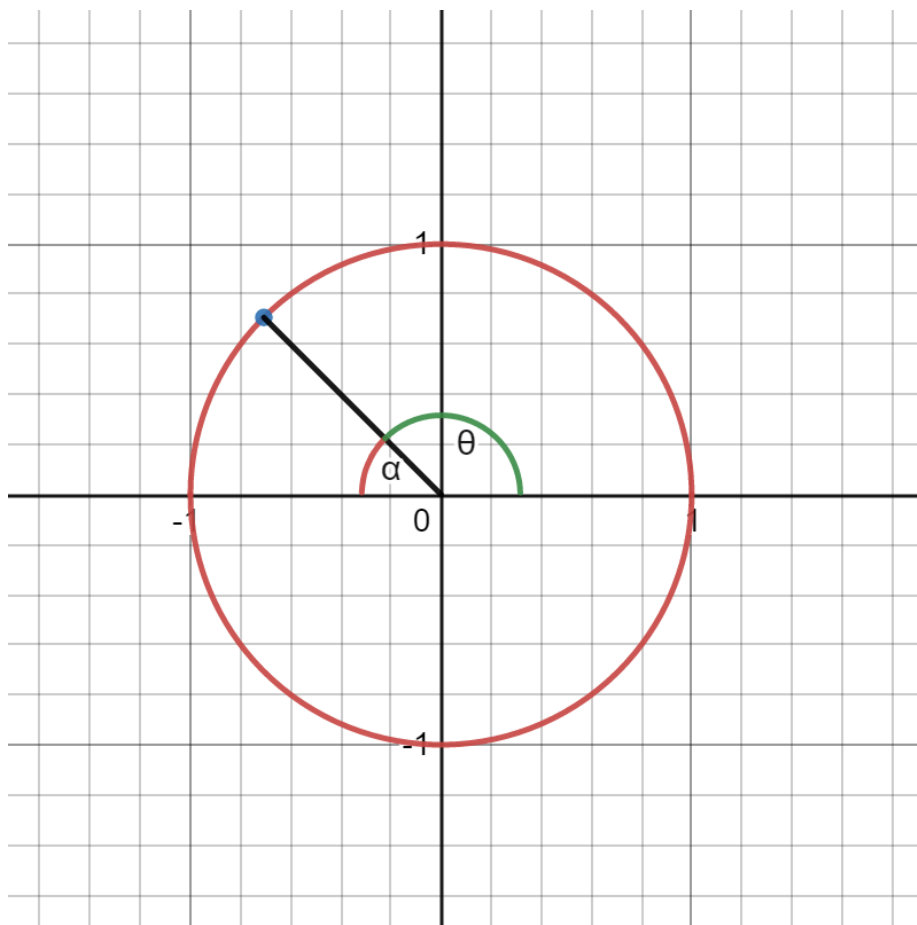
What are the values of $\cos(\theta)$ and $\sin(\theta)$?

$\cos(\theta) = (+ / - \checkmark) \ (0 / 1 / \frac{\sqrt{2}}{2} / \frac{1}{2} \checkmark / \frac{\sqrt{3}}{2})$

$\sin(\theta) = (+ \checkmark / -) \ (0 / 1 / \frac{\sqrt{2}}{2} / \frac{1}{2} / \frac{\sqrt{3}}{2} \checkmark)$

TRIG9.tex

Exercise 5 *Use the graph below to help you answer the following questions.*

$$\theta = \frac{3\pi}{4}$$

What Quadrant is θ in?

Multiple Choice:

  (a) *I*

  (b) *II* ✓

  (c) *III*

  (d) *IV*

What is the value of the reference angle α?

$$\alpha = \boxed{\dfrac{\pi}{4}}$$

What are the values of $\cos(\alpha)$ and $\sin(\alpha)$?

$\cos(\alpha) = (+ \checkmark / -) (0 / 1 / \frac{\sqrt{2}}{2} \checkmark / \frac{1}{2} / \frac{\sqrt{3}}{2})$

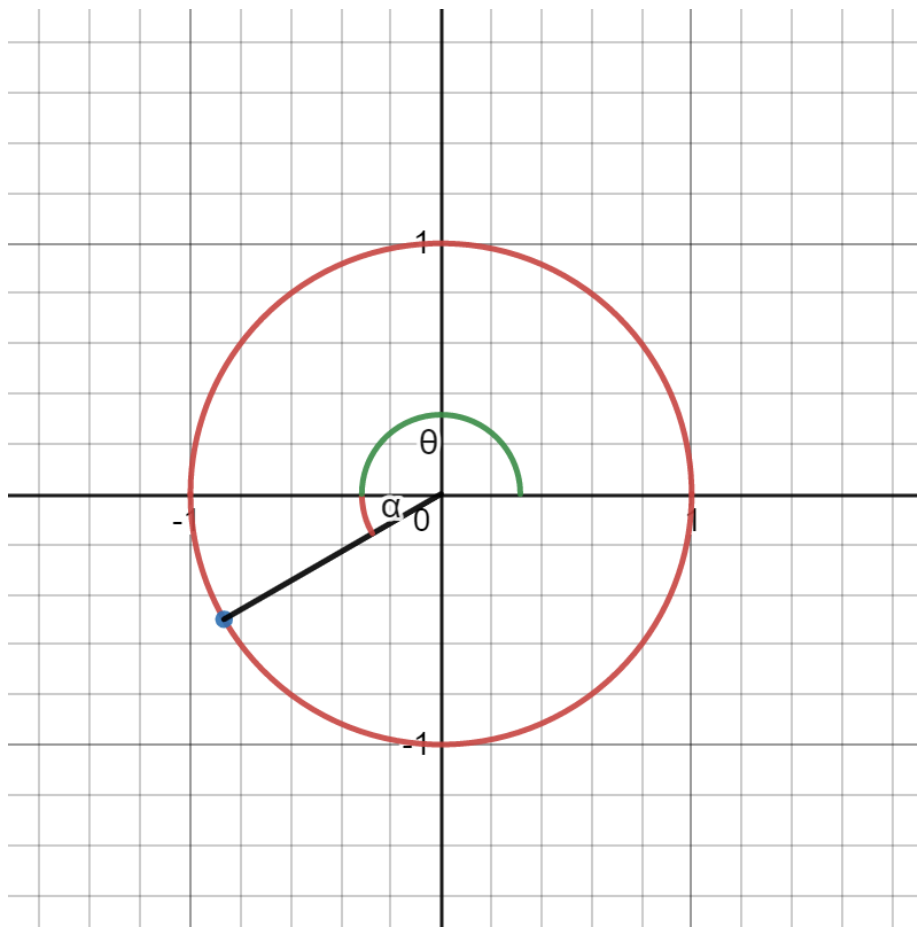$\sin(\alpha) = (+ \checkmark / -) (0 / 1 / \frac{\sqrt{2}}{2} \checkmark / \frac{1}{2} / \frac{\sqrt{3}}{2})$
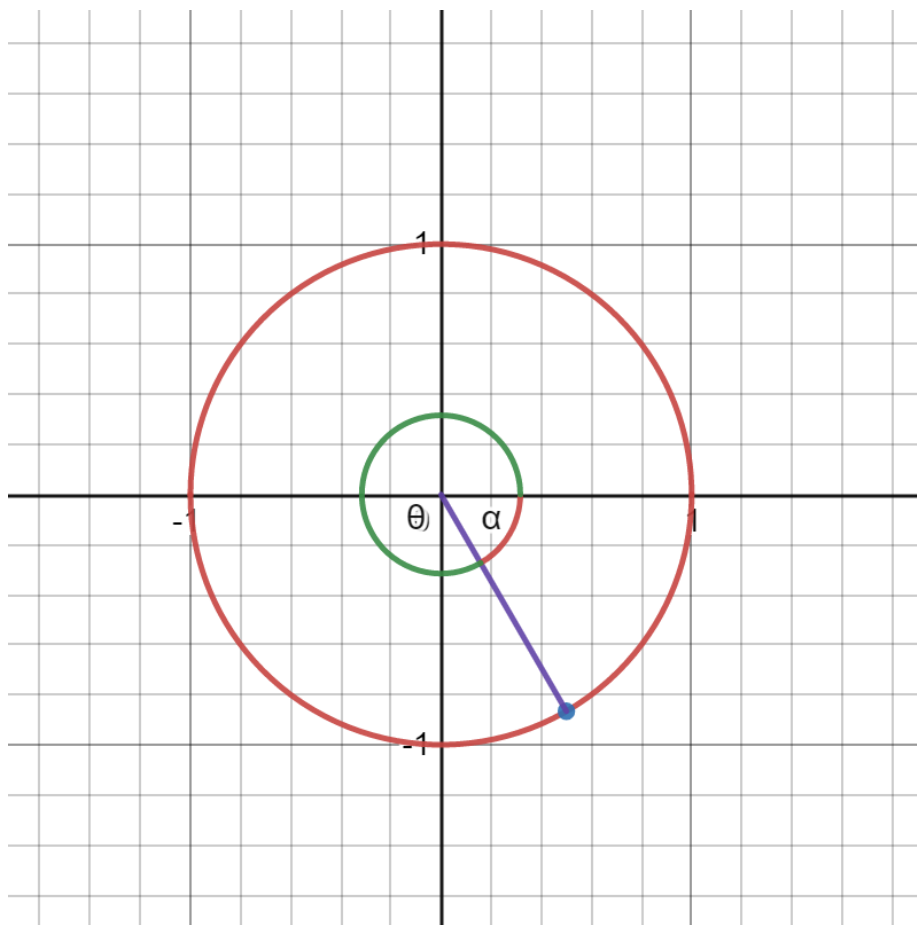
What are the values of $\cos(\theta)$ and $\sin(\theta)$?

$\cos(\theta) = (+ / - \checkmark) (0 / 1 / \frac{\sqrt{2}}{2} \checkmark / \frac{1}{2} / \frac{\sqrt{3}}{2})$

$\sin(\theta) = (+ \checkmark / -) (0 / 1 / \frac{\sqrt{2}}{2} \checkmark / \frac{1}{2} / \frac{\sqrt{3}}{2})$

TRIG2.tex

Exercise   6   *Use the graph below to help you answer the following questions.*

$\theta = \dfrac{7\pi}{6}$

What Quadrant is θ in?

Multiple Choice:

   (a) I

   (b) II

   (c) III ✓

   (d) IV

What is the value of the reference angle α?

$\alpha = \boxed{\dfrac{\pi}{6}}$

What are the values of $\cos(\alpha)$ and $\sin(\alpha)$?

$\cos(\alpha) = (+\ ✓ /\ -)\ (0\ /\ 1\ /\ \dfrac{\sqrt{2}}{2}\ /\ \dfrac{1}{2}\ /\ \dfrac{\sqrt{3}}{2}\ ✓)$

$\sin(\alpha) = (+\ ✓ /\ -)\ (0\ /\ 1\ /\ \dfrac{\sqrt{2}}{2}\ /\ \dfrac{1}{2}\ ✓ /\ \dfrac{\sqrt{3}}{2}\ )$

What are the values of $\cos(\theta)$ and $\sin(\theta)$?

$\cos(\theta) = (+\ /\ -\ ✓)\ (0\ /\ 1\ /\ \dfrac{\sqrt{2}}{2}\ /\ \dfrac{1}{2}\ /\ \dfrac{\sqrt{3}}{2}\ ✓)$

$\sin(\theta) = (+\ /\ -\ ✓)\ (0\ /\ 1\ /\ \dfrac{\sqrt{2}}{2}\ /\ \dfrac{1}{2}\ ✓ /\ \dfrac{\sqrt{3}}{2}\ )$

`TRIG6.tex`

Exercise 7 *Use the graph below to help you answer the following questions.*

$$\theta = \frac{5\pi}{3}$$

What Quadrant is θ in?

Multiple Choice:

   (a) *I*

   (b) *II*

   (c) *III*

   (d) *IV* ✓

What is the value of the reference angle α?

$\alpha = \boxed{\dfrac{\pi}{3}}$

What are the values of $\cos(\alpha)$ and $\sin(\alpha)$?

$\cos(\alpha) = (+ \checkmark / -) \ (0 \ / \ 1 \ / \ \dfrac{\sqrt{2}}{2} \ / \ \dfrac{1}{2} \ \checkmark / \ \dfrac{\sqrt{3}}{2})$

$\sin(\alpha) = (+ \checkmark / -) \ (0 \ / \ 1 \ / \ \dfrac{\sqrt{2}}{2} \ / \ \dfrac{1}{2} \ / \ \dfrac{\sqrt{3}}{2} \ \checkmark)$
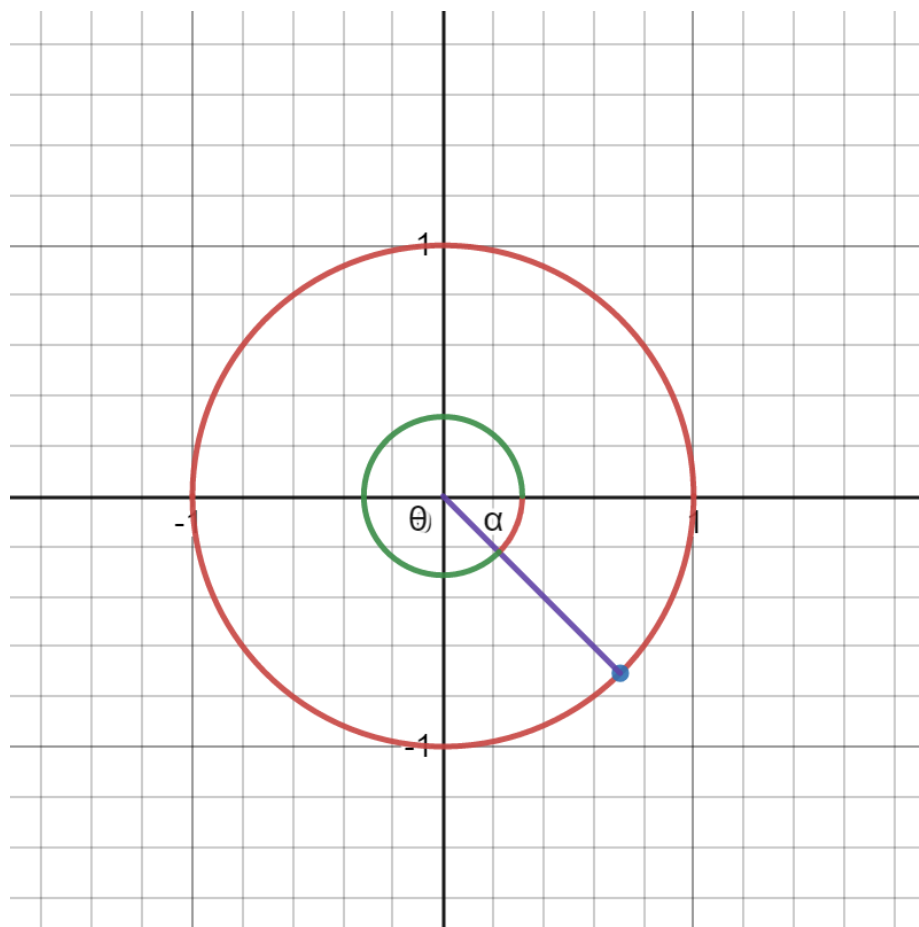
What are the values of $\cos(\theta)$ and $\sin(\theta)$?

$\cos(\theta) = (+ \checkmark / -) \ (0 \ / \ 1 \ / \ \dfrac{\sqrt{2}}{2} \ / \ \dfrac{1}{2} \ \checkmark / \ \dfrac{\sqrt{3}}{2})$

$\sin(\theta) = (+ / - \ \checkmark) \ (0 \ / \ 1 \ / \ \dfrac{\sqrt{2}}{2} \ / \ \dfrac{1}{2} \ / \ \dfrac{\sqrt{3}}{2} \ \checkmark)$

TRIG7.tex

Exercise   8 *Use the graph below to help you answer the following questions.*

$$\theta = \frac{7\pi}{4}$$

What Quadrant is θ in?

Multiple Choice:

(a) *I*

(b) *II*

(c) *III*

(d) *IV* ✓

What is the value of the reference angle α?

$$\alpha = \boxed{\dfrac{\pi}{4}}$$

What are the values of $\cos(\alpha)$ *and* $\sin(\alpha)$?

$$\cos(\alpha) = (+ \checkmark / -) \ (0 / 1 / \frac{\sqrt{2}}{2} \checkmark / \frac{1}{2} / \frac{\sqrt{3}}{2})$$

$$\sin(\alpha) = (+ \checkmark / -) \ (0 / 1 / \frac{\sqrt{2}}{2} \checkmark / \frac{1}{2} / \frac{\sqrt{3}}{2})$$
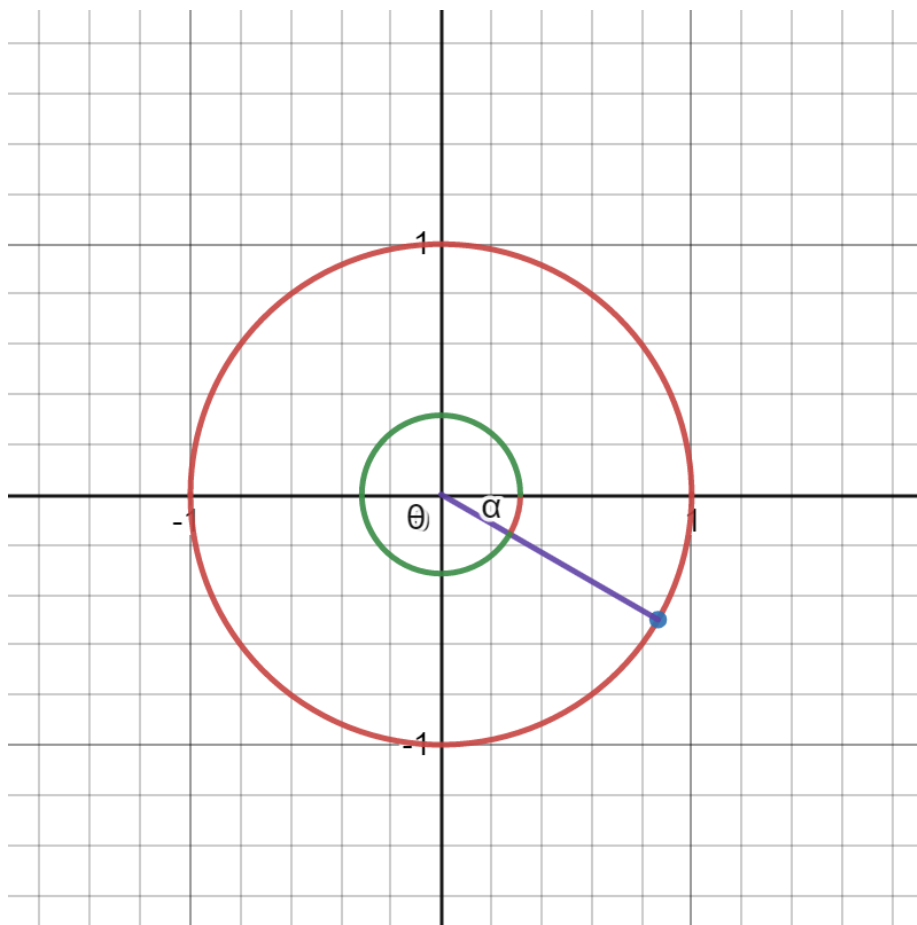
What are the values of $\cos(\theta)$ *and* $\sin(\theta)$?

$$\cos(\theta) = (+ \checkmark / -) \ (0 / 1 / \frac{\sqrt{2}}{2} \checkmark / \frac{1}{2} / \frac{\sqrt{3}}{2})$$

$$\sin(\theta) = (+ / - \checkmark) \ (0 / 1 / \frac{\sqrt{2}}{2} \checkmark / \frac{1}{2} / \frac{\sqrt{3}}{2})$$

TRIG3.tex

Exercise 9 *Use the graph below to help you answer the following questions.*

$$\theta = \frac{11\pi}{6}$$

What Quadrant is θ in?

Multiple Choice:

   (a) *I*

   (b) *II*

   (c) *III*

   (d) *IV* ✓

What is the value of the reference angle α?

$\alpha = \boxed{\dfrac{\pi}{6}}$

What are the values of $\cos(\alpha)$ and $\sin(\alpha)$?

$\cos(\alpha) = (+ \checkmark / -) \ (0 / 1 / \frac{\sqrt{2}}{2} / \frac{1}{2} / \frac{\sqrt{3}}{2} \ \checkmark)$

$\sin(\alpha) = (+ \checkmark / -) \ (0 / 1 / \frac{\sqrt{2}}{2} / \frac{1}{2} \ \checkmark / \frac{\sqrt{3}}{2})$
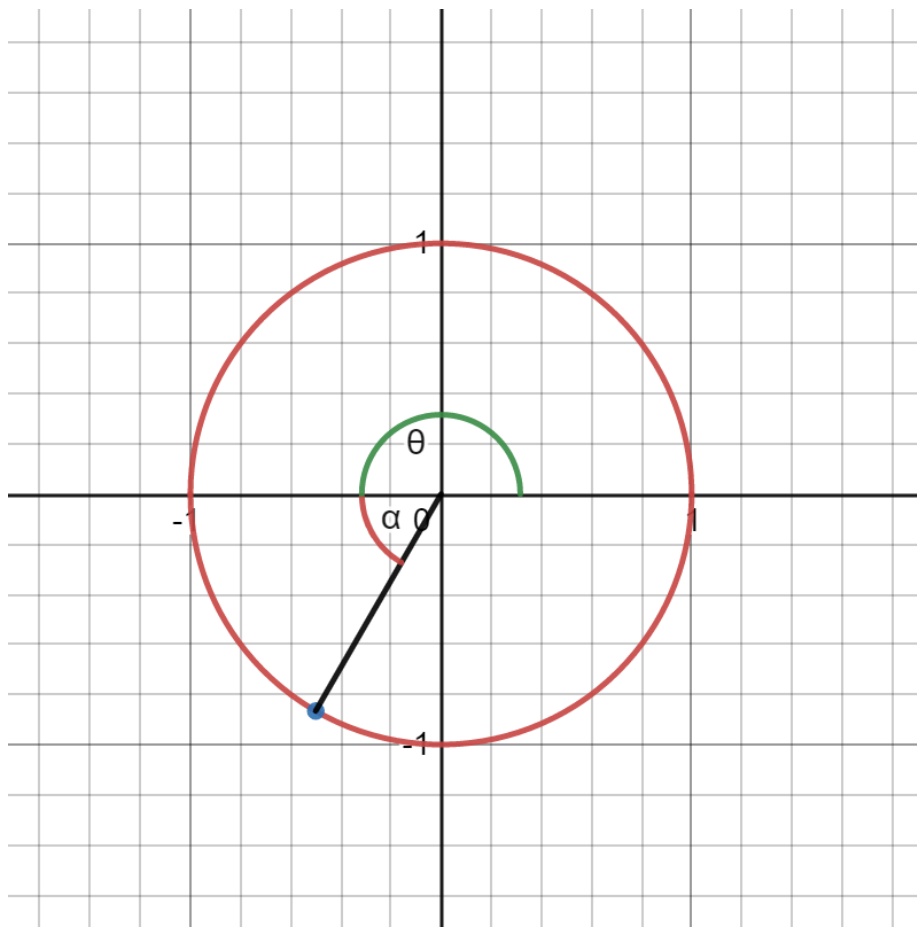
What are the values of $\cos(\theta)$ and $\sin(\theta)$?

$\cos(\theta) = (+ \checkmark / -) \ (0 / 1 / \frac{\sqrt{2}}{2} / \frac{1}{2} / \frac{\sqrt{3}}{2} \ \checkmark)$

$\sin(\theta) = (+ / - \ \checkmark) \ (0 / 1 / \frac{\sqrt{2}}{2} / \frac{1}{2} \ \checkmark / \frac{\sqrt{3}}{2})$

TRIG5.tex

Exercise   10   *Use the graph below to help you answer the following questions.*

$$\theta = \frac{4\pi}{3}$$

What Quadrant is θ in?

Multiple Choice:

   (a) *I*

   (b) *II*

   (c) *III* ✓

   (d) *IV*

What is the value of the reference angle α?

$$\alpha = \boxed{\frac{\pi}{3}}$$

What are the values of $\cos(\alpha)$ and $\sin(\alpha)$?

$$\cos(\alpha) = (+ \checkmark / -) \ (0 / 1 / \frac{\sqrt{2}}{2} / \frac{1}{2} \checkmark / \frac{\sqrt{3}}{2})$$

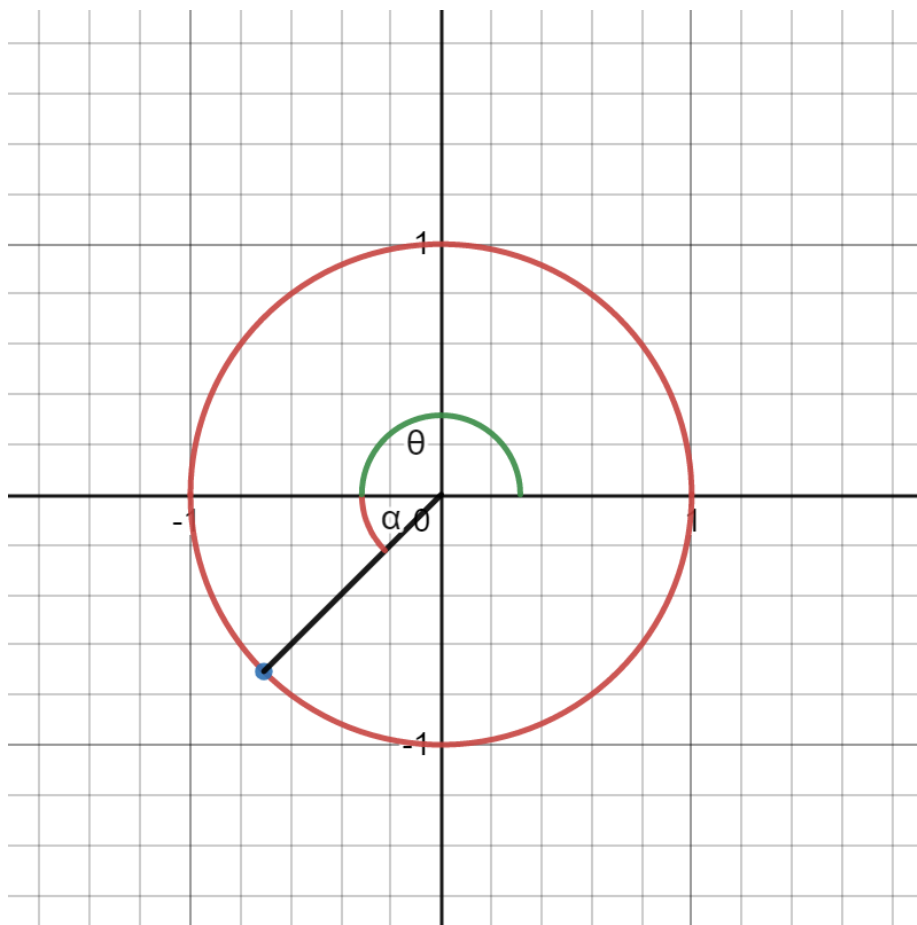$$\sin(\alpha) = (+ \checkmark / -) \ (0 / 1 / \frac{\sqrt{2}}{2} / \frac{1}{2} / \frac{\sqrt{3}}{2} \checkmark)$$

What are the values of $\cos(\theta)$ and $\sin(\theta)$?

$$\cos(\theta) = (+ / - \checkmark) \ (0 / 1 / \frac{\sqrt{2}}{2} / \frac{1}{2} \checkmark / \frac{\sqrt{3}}{2})$$

$$\sin(\theta) = (+ / - \checkmark) \ (0 / 1 / \frac{\sqrt{2}}{2} / \frac{1}{2} / \frac{\sqrt{3}}{2} \checkmark)$$

TRIG8.tex

Exercise 11 *Use the graph below to help you answer the following questions.*

$$\theta = \frac{5\pi}{4}$$

What Quadrant is θ in?

Multiple Choice:

   (a) *I*

   (b) *II*

   (c) *III* ✓

   (d) *IV*

What is the value of the reference angle α?

$$\alpha = \boxed{\frac{\pi}{4}}$$

What are the values of $\cos(\alpha)$ and $\sin(\alpha)$?

$\cos(\alpha) = (+ \checkmark / -)\ (0 / 1 / \dfrac{\sqrt{2}}{2}\ \checkmark / \dfrac{1}{2} / \dfrac{\sqrt{3}}{2})$

$\sin(\alpha) = (+ \checkmark / -)\ (0 / 1 / \dfrac{\sqrt{2}}{2}\ \checkmark / \dfrac{1}{2} / \dfrac{\sqrt{3}}{2})$

What are the values of $\cos(\theta)$ and $\sin(\theta)$?

$\cos(\theta) = (+ / - \checkmark)\ (0 / 1 / \dfrac{\sqrt{2}}{2}\ \checkmark / \dfrac{1}{2} / \dfrac{\sqrt{3}}{2})$

$\sin(\theta) = (+ / - \checkmark)\ (0 / 1 / \dfrac{\sqrt{2}}{2}\ \checkmark / \dfrac{1}{2} / \dfrac{\sqrt{3}}{2})$

REVIEW18.tex

Exercise   12 *Fill in the missing parts of the equations below.*

$(\cos(x) + \cos(x))^2 = 3$

$(\cos(x) + \cos(x)) = \boxed{\sqrt{3}}$

$\boxed{2}\,\cos(x) = \boxed{\sqrt{3}}$

$\cos(x) = \boxed{\dfrac{\sqrt{3}}{2}}$

Which of the following is not a possible solution of x?

Multiple Choice:

(a) $\dfrac{\pi}{6}$

(b) $\dfrac{5\pi}{6}$ $\checkmark$

(c) $\dfrac{11\pi}{6}$

(d) $\dfrac{13\pi}{6}$

REVIEW19.tex

Exercise   13 *Fill in the missing parts of the equations below.*

$\dfrac{\sin(x) - \cos(x)}{\cos(x)} = 0$

$\dfrac{\sin(x)}{\boxed{\cos(x)}} - \dfrac{\cos(x)}{\boxed{\cos(x)}} = 0$

$$\frac{\sin{(x)}}{\boxed{\cos{(x)}}} - \boxed{1} = 0$$

$$\frac{\sin{(x)}}{\boxed{\cos{(x)}}} = \boxed{1}$$

$$\boxed{\tan{(x)}} = \boxed{1}$$

Which of the following is not a possible solution of x?

Multiple Choice:

(a) $\dfrac{\pi}{4}$

(b) $\dfrac{17\pi}{4}$

(c) $\dfrac{3\pi}{4}$ ✓

(d) $\dfrac{5\pi}{4}$