



Trigonometry Workbook

Angles

krista king
MATH

NAMING ANGLES

- 1. What do we call an angle of $\theta = 180^\circ$?
- 2. Sketch an acute angle.
- 3. What is the measure of a straight angle?
- 4. Name the angle $\theta = 6^\circ$.
- 5. Sketch a 360° angle.
- 6. Give the full set of obtuse angles.



COMPLEMENTARY AND SUPPLEMENTARY ANGLES

■ 1. Find the supplement θ of $7\pi/8$.

■ 2. Angles $\angle 1$ and $\angle 2$ are complementary. Find the supplement of $\angle 2$.

$$m\angle 1 = (2x + 5)^\circ$$

$$m\angle 2 = (x + 4)^\circ$$

■ 3. The complement of θ is $\pi/6$. Find the supplement of θ .

■ 4. Find the complement of 42° .

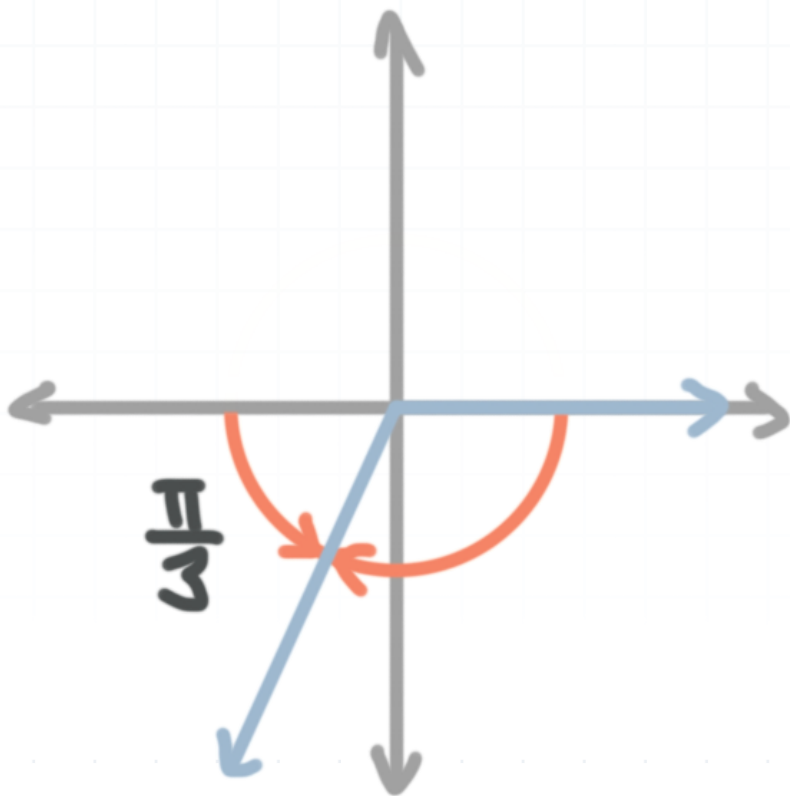
■ 5. Find the angle that's supplementary to $2\pi/3$.

■ 6. True or False? If x and y are complementary angles, then $2(x + y) = 180^\circ$.



POSITIVE AND NEGATIVE ANGLES

- 1. Sketch -120° in standard position.
- 2. Find the measure of the unknown negative angle in radians.



- 3. Sketch $3\pi/2$ in standard position.
- 4. Sketch $-\pi/2$ in standard position.
- 5. Sketch 405° in standard position.



- 6. Find an angle between 0° and 360° that has the same terminal side as a -675° angle.



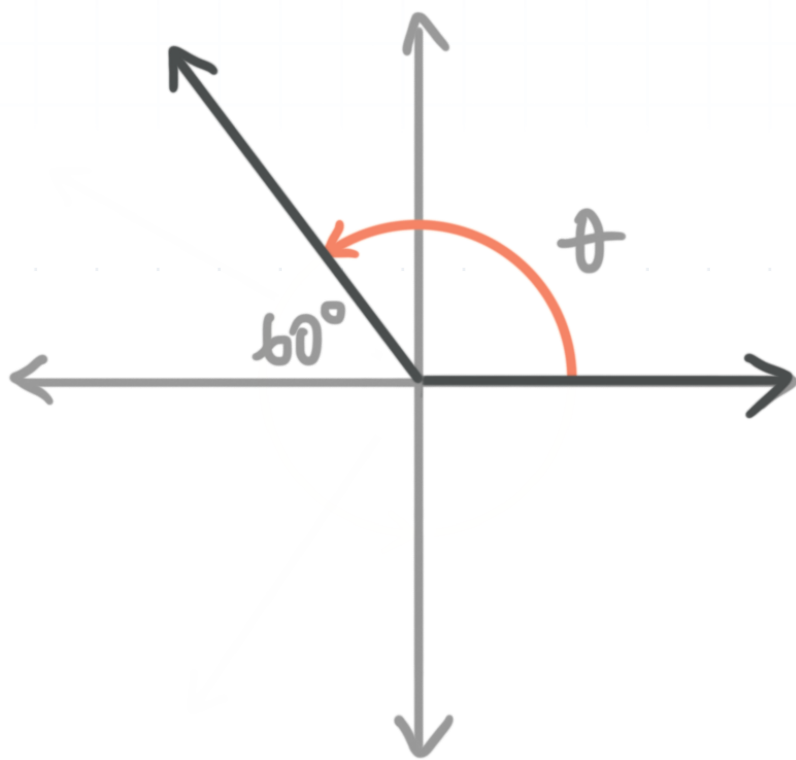
QUADRANT OF THE ANGLE

- 1. In which quadrant is the angle $\pi/5$ located?
- 2. In which quadrant is the angle -820° located?
- 3. In which quadrant is the angle $-13\pi/4$ located?
- 4. Of the angles -15° , 240° , -275° , and 550° , assuming all four are sketched in standard position, which one has its terminal side in the fourth quadrant?
- 5. In which quadrant is the angle $1,200^\circ$ located?
- 6. On which axis does the angle -7π lie?



DEGREES, RADIANS, AND DMS

- 1. Convert $65^{\circ}13'12''$ to a decimal angle.
- 2. Find the sum $20.25^{\circ} + 20^{\circ}2'5''$ in DMS. Note: The sum of two DMS angles is found by adding the two degree parts, adding the two minutes parts, adding the two seconds parts, and then combining the separate sums into one angle.
- 3. Find the measure of θ in radians.



- 4. Convert the angle $-9\pi/2$ to degrees.



■ 5. What is the measure of 152.34° in DMS?

■ 6. What is the measure of 0.2565π in DMS?



COTERMINAL ANGLES

- 1. If we start at -270° and move three full rotations clockwise around the origin, at which angle will we arrive?

- 2. If we start at $5\pi/6$ and move two full rotations counterclockwise around the origin, at which angle will we arrive?

- 3. Find the negative and positive coterminal angles that are one full rotation away from $\theta = 200^\circ$.

- 4. Which angle in the interval $[0^\circ, 360^\circ)$ is coterminal with $-1,624^\circ$?

- 5. Find the angle in the interval $[0, 2\pi)$ that's coterminal with $16\pi/3$.

- 6. Which angle in $[-\pi, \pi)$ is coterminal with $-19\pi/2$?



