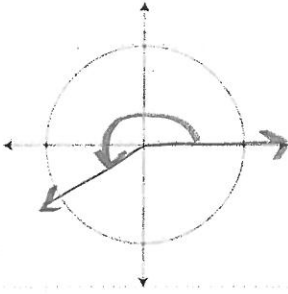


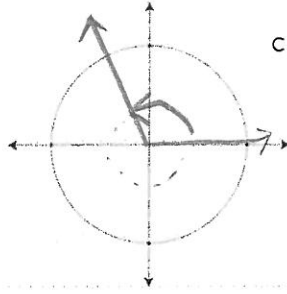
Chapter 8 - Unit Circle

1. Sketch each angle in standard position:

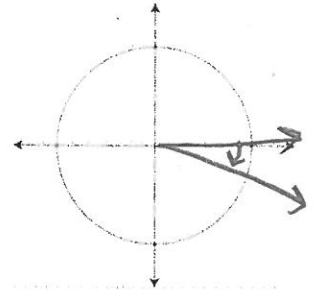
a. 220°



b. $\frac{5\pi}{8}$



c. $-\frac{\pi}{10}$



2. Find one positive and one negative co-terminal angle: $11\pi + \frac{3}{8}\pi$

a. 220°
 $360 + 220^\circ = 580^\circ$
 $360 - 220^\circ = 140^\circ$

b. $\frac{5\pi}{8}$
 $2\pi + \frac{5}{8}\pi = \frac{21\pi}{8}$
 $-\frac{11\pi}{8}$

c. $-\frac{\pi}{10}$
 $2\pi + \frac{1}{10} = \frac{19\pi}{10}$
 $-\frac{21\pi}{10}$

3. Find the reference angle for:

a. 220° 40°

b. $\frac{5\pi}{8}$ $\frac{3\pi}{8}$

c. $-\frac{\pi}{10}$ $\frac{\pi}{10}$

4. Convert each degree to radian or radian measure to degree.

a. 220°
 $\frac{180}{\pi} = \frac{220}{x}$
 $180x = 220\pi$
 $x = \frac{22}{18}\pi = \frac{11}{9}\pi$

b. $\frac{5\pi}{8}$
 $\frac{180}{\pi} = \frac{x}{5\pi/8}$
 $180 \cdot \frac{5\pi}{8} = x\pi$
 $\frac{900}{8} = x$
 112.5°

c. $-\frac{\pi}{10}$
 $\frac{180}{\pi} = \frac{x}{-\pi/10}$
 $-18^\circ = x$

#5-8, Use your completed Unit Circle to fill in the blank.

5. $\sin \frac{3\pi}{4} = \frac{\sqrt{2}}{2}$

6. $\cos \frac{5\pi}{6} = \frac{-\sqrt{3}}{2}$

7. $\tan \frac{5\pi}{3} = -\sqrt{3}$
 $\frac{-\sqrt{3}}{2} \cdot \frac{2}{1}$

8. $\sin \frac{7\pi}{6} \text{ or } \frac{11\pi}{6} = -\frac{1}{2}$

9. Write each in reduced radical form:

a. $\sqrt{50}$
 $5 \cdot 5 \cdot 2$
 $5\sqrt{2}$

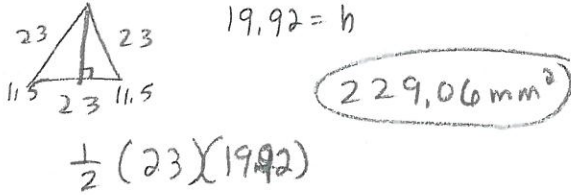
b. $3\sqrt{72}$
 $36 \cdot 2$
 $66 \cdot 2$
 $18\sqrt{2}$

c. $\frac{5}{\sqrt{7}}$
 $\frac{5\sqrt{7}}{7}$

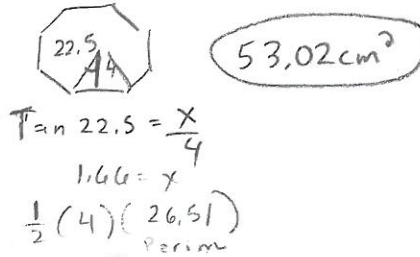
Chapter 9 - Area

#1-6, Find the area of each shape.

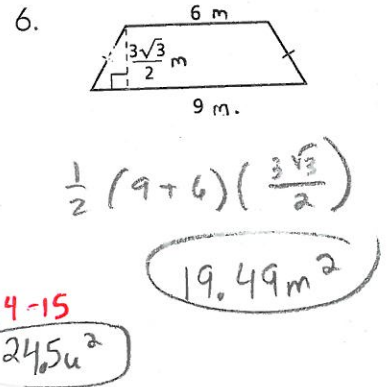
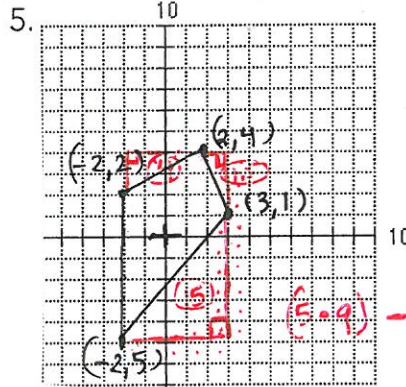
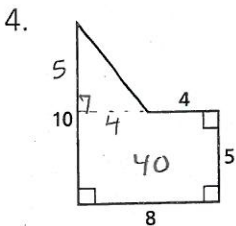
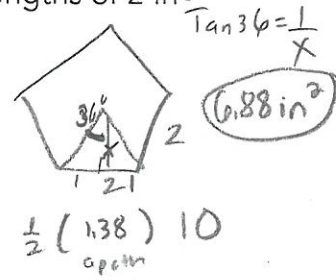
1. An equilateral triangle with sides of 23 mm.



2. A regular octagon with an apothem of 4 cm.



3. A regular pentagon with side lengths of 2 in.



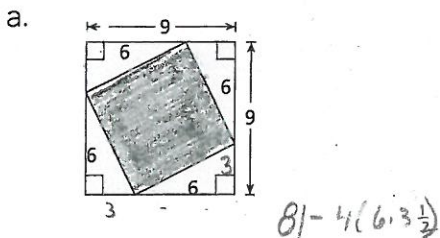
7. The circumference of a circle is 22π mm. Find the area of the circle and leave your answer in π form.

Handwritten calculations:
 $2\pi r = 22\pi$
 $2r = 22$
 $r = 11$
 $A = \pi r^2$
 $\pi 11^2$
 Area: $121\pi \text{ mm}^2$

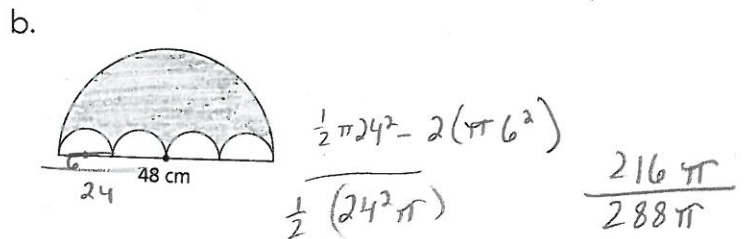
8. The area of a triangle is 610 in^2 . If the base of the triangle is 25 in , what is the height?

Handwritten calculations:
 $610 = \frac{1}{2} (25)(h)$
 $48.8 \text{ in.} = h$

9. Find the probability a point lies within the shape and is in the shaded region.



Handwritten calculations:
 $\frac{45}{81}$
 Area: 0.56 or $\frac{5}{9}$
 55.56%



Handwritten calculations:
 $\frac{1}{2} (24^2 \pi)$
 Area: 75% or $\frac{3}{4}$