10.2 Day 1 Homework
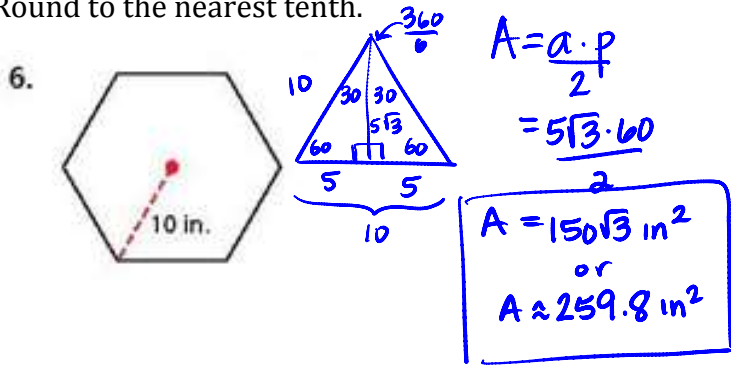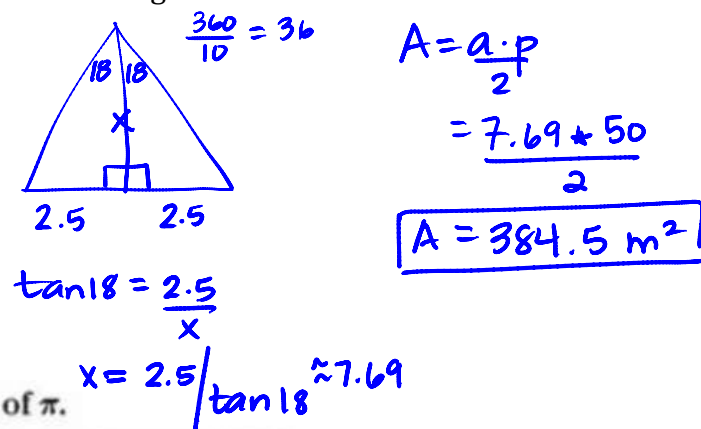
Pg. 691 #6, 9-11, 14-15, 28-29, 34-37, 43

6) Find the area of the regular polygon. Round to the nearest tenth.
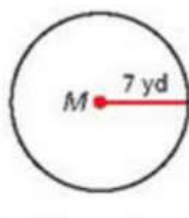
6.

$\dfrac{360}{6}$

$A = \dfrac{a \cdot p}{2}$

$= \dfrac{5\sqrt{3} \cdot 60}{2}$

$\boxed{A = 150\sqrt{3} \text{ in}^2}$

or

$A \approx 259.8 \text{ in}^2$

9) Find the area of a regular dodecagon with a side length of 5 m.

$\dfrac{360}{10} = 36$

$A = \dfrac{a \cdot p}{2}$

$= \dfrac{7.69 \ast 50}{2}$

$\boxed{A = 384.5 \text{ m}^2}$

$\tan 18 = \dfrac{2.5}{x}$
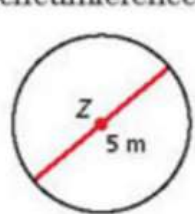
$x = \dfrac{2.5}{\tan 18} \approx 7.69$

Find each measurement. Give your answers in terms of π.

10. the area of $\odot M$

$A = \pi r^2$

$= \pi (7)^2$
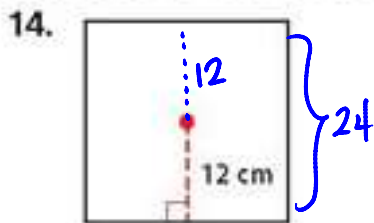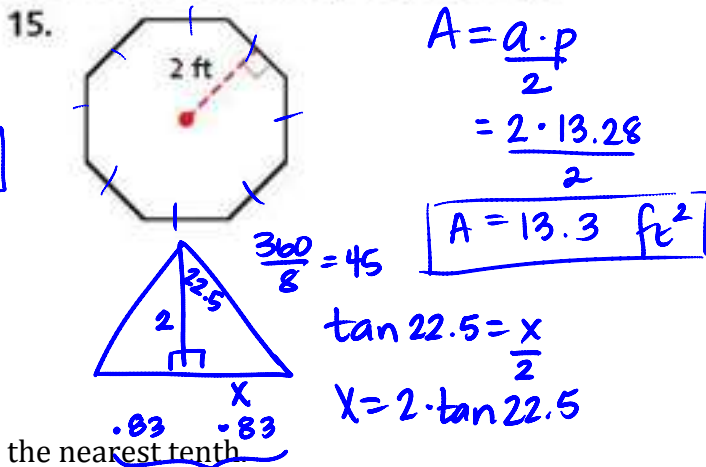
$\boxed{A = 49\pi \text{ yd}^2}$

11. the circumference of $\odot Z$

$C = \pi d$
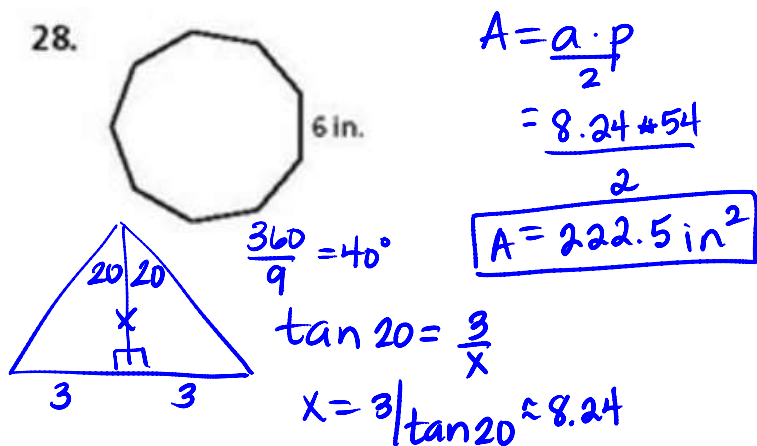
$\boxed{C = 5\pi \text{ m}}$
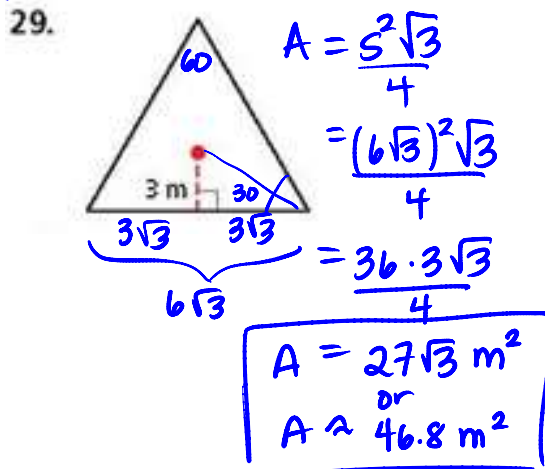
Find the area of each regular polygon. Round to the nearest tenth, if necessary.

14.

$A = s^2$

$A = 24^2$

$\boxed{A = 576 \text{ cm}^2}$

15.

$A = \dfrac{a \cdot p}{2}$

$= \dfrac{2 \cdot 13.28}{2}$

$\boxed{A = 13.3 \text{ ft}^2}$

$\dfrac{360}{8} = 45$

$\tan 22.5 = \dfrac{x}{2}$

$x = 2 \cdot \tan 22.5$

$.83 \quad .83$

1.66

28-29) Find the area of the regular polygon. Round to the nearest tenth.

28.

$A = \dfrac{a \cdot p}{2}$

$= \dfrac{8.24 \ast 54}{2}$

$\boxed{A = 222.5 \text{ in}^2}$

$\dfrac{360}{9} = 40°$

$\tan 20 = \dfrac{3}{x}$

$x = \dfrac{3}{\tan 20} \approx 8.24$

29.

$A = \dfrac{s^2 \sqrt{3}}{4}$

$= \dfrac{(6\sqrt{3})^2 \sqrt{3}}{4}$

$= \dfrac{36 \cdot 3\sqrt{3}}{4}$

$\boxed{A = 27\sqrt{3} \text{ m}^2}$

or

$A \approx 46.8 \text{ m}^2$

34-37

Find the missing measurements for each circle. Give your answers in terms of π.

	Diameter d	Radius r	Area A	Circumference C
34.	6	3	9π	6π
35.	20	10	100	20π
36.	34	17	289π	34π
37.	36	18	324π	36π

43) Find the perimeter of the regular octagon to the nearest centimeter.

a) 5   b) 40   c) 20   d) 68

4.98
4.98
4.98
4.98

$\dfrac{360}{8} = 45°$

6 cm

22.5

6

$2+9$ x 2.49

$\tan 22.5 = \dfrac{x}{6}$

$x = 6\tan 22.5$

$x \approx 2.49$