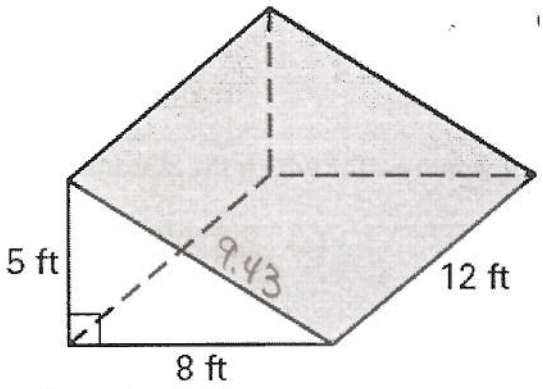
Tour de Geometry

Team Name: Key (new)

Stage 4 Semester 2

1. Find the surface area and volume of the solid.

SA = 309.16 ft²



$5^2 + 8^2 = L^2$

$SA = 2B + Ph$

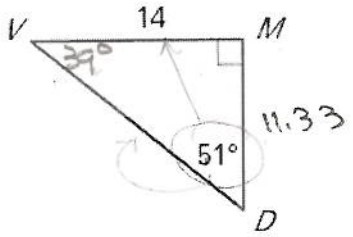
$SA = 2 \cdot (\frac{1}{2} \cdot 5 \cdot 8) + 22.43 \cdot 12$

V = 240 ft³

$V = B \cdot h$

$V = 20 \cdot 12$

2. Solve the right triangle. Round answers to the nearest hundredth.



$\tan 51^\circ = \frac{14}{MD}$

$\sin 51^\circ = \frac{14}{VD}$

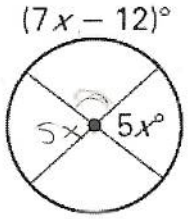
MD = 11.33

VD = 18.01

m∠V = 39°

3. Find the value of x.

x = 16



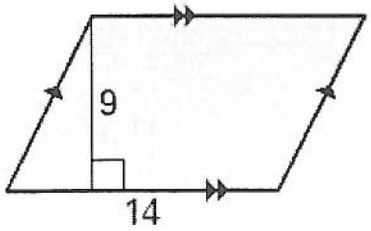
$180 - 5x = 7x - 12$

$180 = 12x - 12$

$192 = 12x$

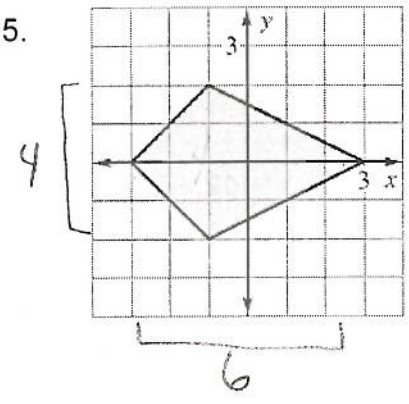
Find the area of the figures.

4.



9.14

5.



4. 126 units²

5. 12 units²

$\frac{1}{2}(4 \cdot 6)$

6. Find the sum of the interior angle measures of the following regular convex polygons

(a) Pentagon (b) 13-gon (c) 36-gon

(5-2)180 (13-2)180

(a) 540

(b) 1980

(c) 6120

7. Name **each** quadrilateral – *rectangle, rhombus, parallelogram, square* – for which the statement is true

(a) It is equilateral (b) It contains no acute angles

(c) The diagonals are congruent (d) It can contain obtuse angles

(a) rhombus, square

(b) rectangle, square

(c) square, rectangle

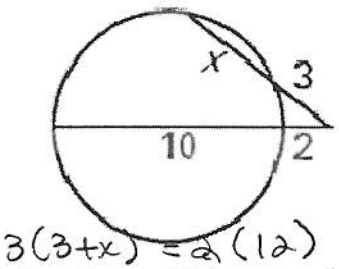
(d) rhombus, parallelogram

Find the value of x in the diagram.

$(x+2)(2x-4) = (2x-1)(x)$

$2x^2 - 8 = 2x^2 - x$

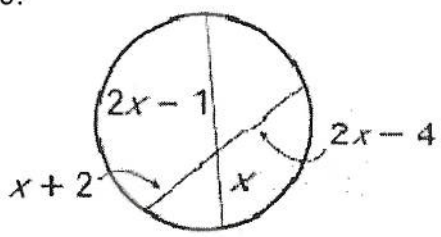
8.



$3(3+x) = 2(12)$

$9+3x=24 \quad 3x=15$

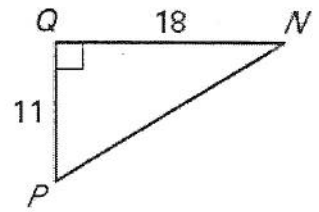
9.



$x=5$

$x=8$

10. Find the measure of the missing angles. Round your answer to the nearest hundredth.



$\tan P = \frac{18}{11}$

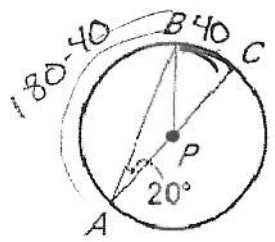
$\tan^{-1}\frac{18}{11} = m\angle P$

$\angle N$ 31.43°

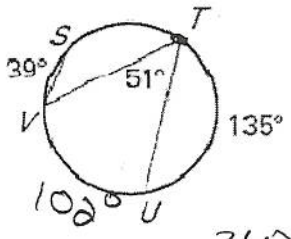
$\angle P$ 58.57°

Find the indicated are measure.

11. $m\overset{\frown}{AB}$



12. $m\overset{\frown}{VST}$



360 − 102 − 135

11. $m\overset{\frown}{AB} = 140°$

12. $m\overset{\frown}{VST} = 123°$