Answer key

Area Formulas:

Name:	Formula:
Rectangle	
Parallelogram	
Triangle	
Trapezoid	
Kite	
Rhombus	
Regular Polygon	
Triangle given two sides and an angle	
Sum of interior angles	

Sum of exterior angles add up to what?

An adjacent exterior and interior angle will add up to what?

30-60-90 formulas:

45-45-90 formulas:

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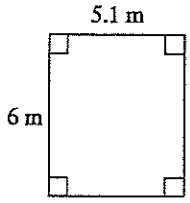
Name_____

Area of Triangles and Quadrilaterals

Date_____ Period____

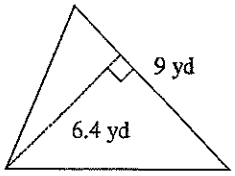
Find the area of each.

1)



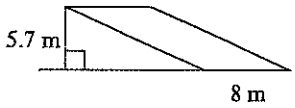
30.6 m^2

2)



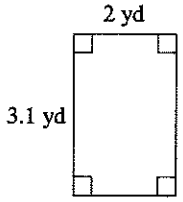
20.8 yd^2

3)



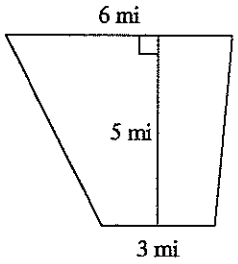
45.6 m^2

4)



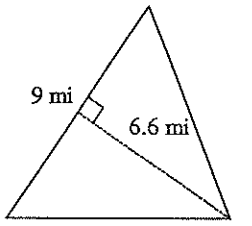
6.2 yd^2

5)



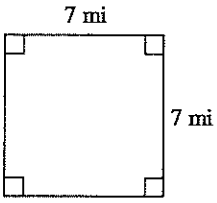
22.5 mi^2

6)



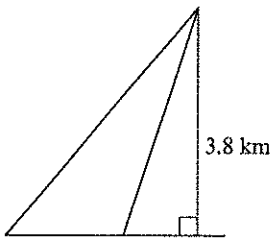
29.7 mi^2

7)



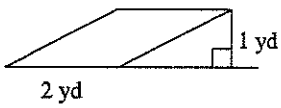
49 mi^2

8)



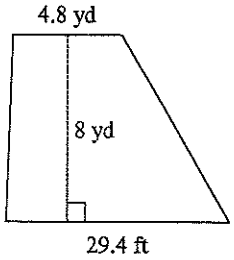
3.8 km^2

9)



2 yd^2

10)



58.4 yd^2

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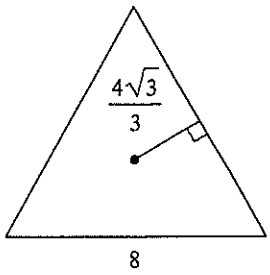
Area of Regular Polygons

Date_____ Period____

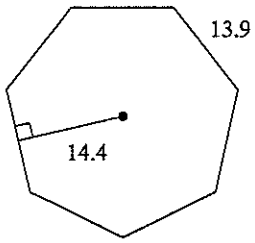
Find the area of each regular polygon. Leave your answer in simplest form.

1)



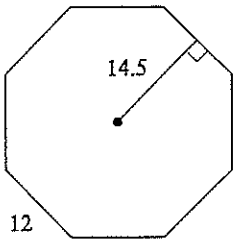
$16\sqrt{3}$

2)



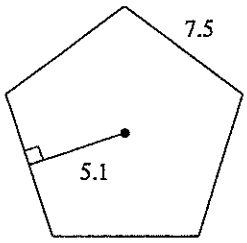
700.56

3)



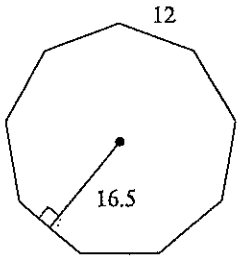
696

4)



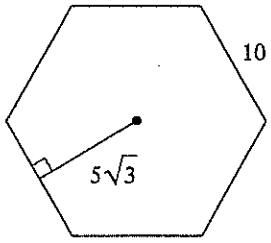
95.625

5)



891

6)



$150\sqrt{3}$

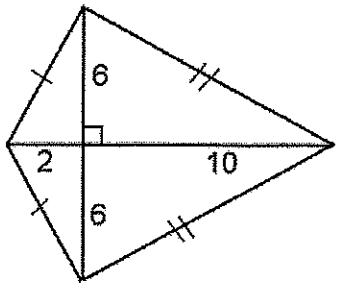
7) pentagon
apothem = 7.3
side = 10.6

193.45

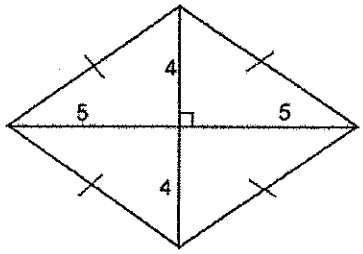
8) triangle
apothem = 14
side = $28\sqrt{3}$

$28\sqrt{3}$

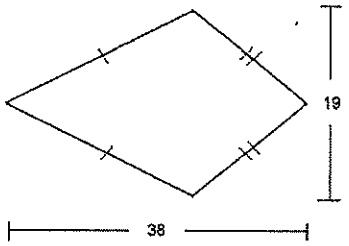
1. Kite or rhombus? Area = 72



2. Kite or rhombus? Area = 40

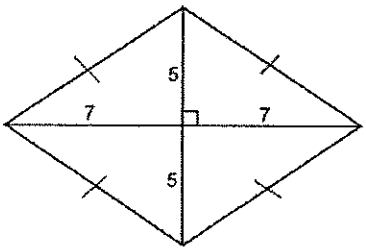


3. Kite or rhombus? Area = 361



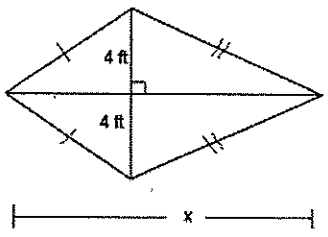
38
19
342
380
722

4. Kite or rhombus? Area = 70



5. Kite or rhombus? The area of this shape is 48 ft². Solve for *x*.

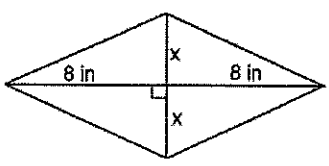
X = 12



$48 = \frac{1}{2}(8 \cdot x)$
$96 = 8x$
$12 = x$

6. Kite or rhombus? The area of this shape is 32 in². Solve for *x*.

X = 2



$32 = \frac{1}{2} \cdot 16x$
$32 = 16x$
$2 = x$

Similarity Ratios

Find the missing values for each pair of similar figures.

$\frac{14}{16} = \frac{x}{60}$

$\frac{5}{12} = \frac{20}{x}$

1. Similarity ratio: 5:12

Smaller figure	Larger figure
P = 20	p=? 48
A=? 20.83	a= 120

$\frac{25}{144} = \frac{x}{120}$

2. Similarity ratio: 14:16

Smaller figure	Larger Figure
P=? 52.5	P= 60
A= 42	A=? 54.8

$\frac{196}{256} = \frac{42}{x}$

$\frac{17}{19} = \frac{x}{24}$

3. Similarity ratio: 6:7

$\frac{6}{7} = \frac{12}{x}$

Smaller figure	Larger figure
P = 12	p=? 14
A=? 23.5	a= 32

$\frac{36}{49} = \frac{x}{32}$

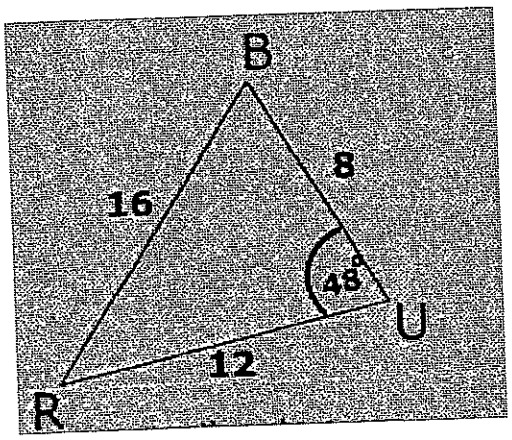
4. Similarity ratio: 17:19

Smaller figure	Larger Figure
P=? 21.47	P= 24
A= 20	A=? 24.9

$\frac{289}{361} = \frac{20}{x}$

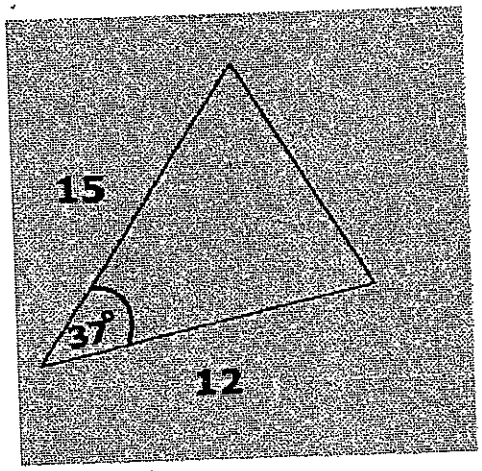
x = 24.9

Find the area of the following triangles:



$A = \frac{1}{2} * 8 * 12 \sin 48$

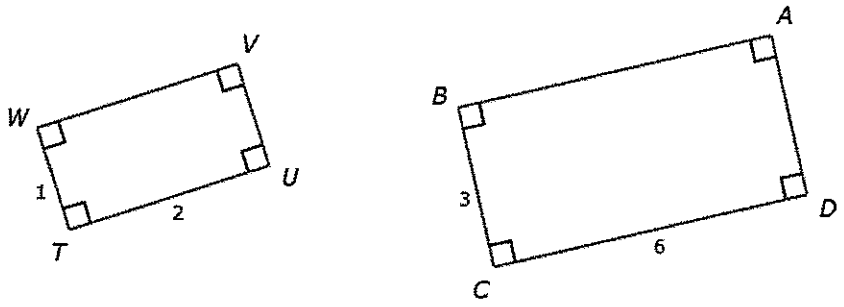
A = 35.7



$A = \frac{1}{2} * 15 * 12 * \sin 37$

A = 54.2

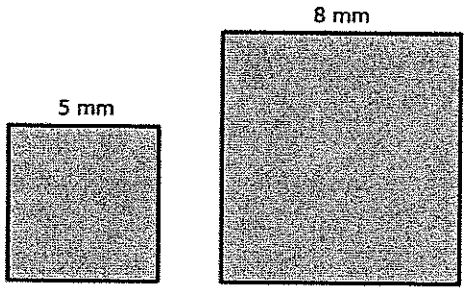
TUVW ~ *ABCD*.



What is the similarity ratio of *TUVW* to *ABCD*?

1 : 3

The figures below are similar. The labeled sides are corresponding.



$\frac{5}{8} = \frac{25}{64}$

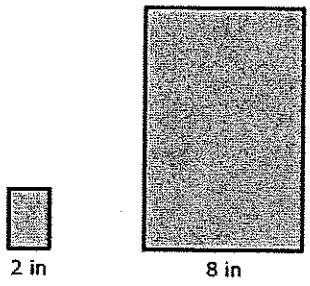
$\frac{25}{64} = \frac{25}{x}$

$x = 64$

$A_1 = 25\ mm^2$ $A_2 = ?$

What is the area of the larger square?

The figures below are similar. The labeled sides are corresponding.



$\frac{2}{8} = \frac{4}{64}$

$\frac{4}{64} = \frac{6}{x}$

$A_1 = 6\ in^2$ $A_2 = ?$

What is the area of the larger rectangle?

$96 = x$