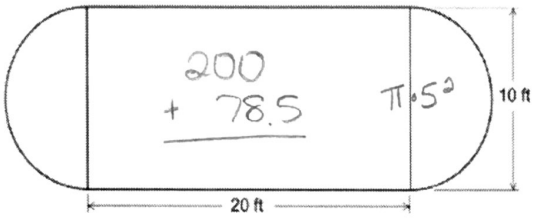
Unit 7 - Geometry Test Review Name KEY

Part 1 – Geometric Measurements

Topic 1: Perimeter and Area

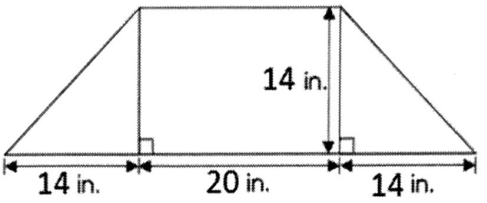
Avg Base = 34.14

1)



What is the area of the figure?
Area: 278.5 ft²

2) Tina created a display as shown below.



What is the area of the figure?
Area: 476 in²

3)

A = 12.56

B 2

A 4

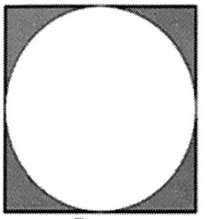
A = 50.24

Circle *A* has a radius that is twice the length of the radius of Circle *B*.

Which is an accurate statement about the relationship of the areas of Circles *A* and *B*?

A. The area of Circle *A* is four times the area of Circle *B*.
B. The area of Circle *A* is twice the area of Circle *B*.
C. The area of Circle *A* is one-half the area of Circle *B*.
D. The area of Circle *A* is one-fourth the area of Circle *B*.

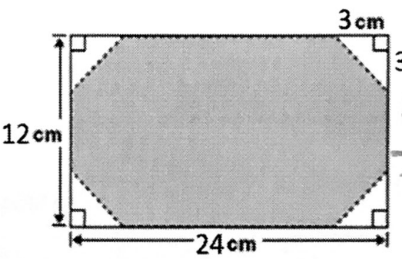
4) A circle is cut out of a square as shown.



64
- 50.24
π·4²

What is the approximate area of the shaded portion of the figure? 13.76 ft²

5) **Cherie cut four congruent triangles off the corners of a rectangle to make an octagon, as shown below.**



½·3·3 = 4.5 · 4

288
- 18

What is the area of the shaded octagon? 270 cm²

Topic 2: Angle Facts

1) Two angles are complementary if they make a right angle and add up to 90 degrees.

2) Two angles are supplementary if they make a straight line and add up to 180 degrees.

3) Angles of a triangle add up to 180 degrees

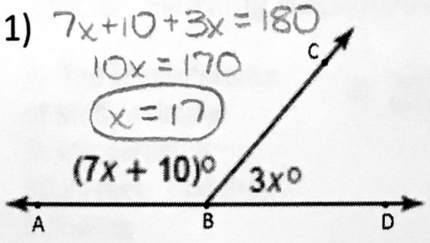
4) Each angle in an equilateral triangle measures 60 degrees.

5) An angle measures 67°. What is the measure of its complement? 23°

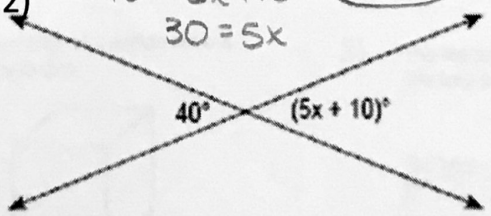
6) An angle measures 108°. What is the measure of its supplement? 72°

Topic 3: Missing Angles - Write equations and solve for the missing variables

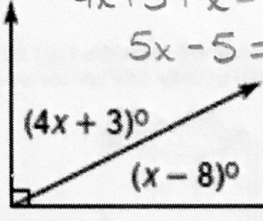
1) 7x + 10 + 3x = 180
10x = 170
x = 17



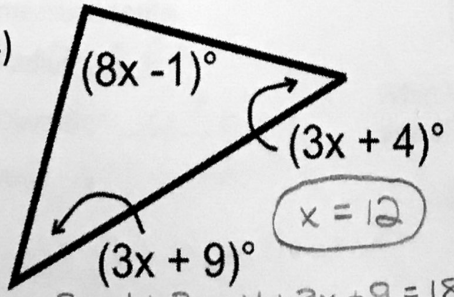
2) 40 = 5x + 10
30 = 5x
x = 6



3) 4x + 3 + x - 8 = 90
5x - 5 = 90
5x = 95
x = 19



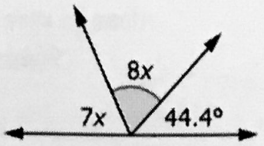
4)



x = 12

8x - 1 + 3x + 4 + 3x + 9 = 180
14x + 12 = 180

5)



7x + 8x + 44.4 = 180
15x = 135.6
x = 9.04

What is the measure, in degrees, of the highlighted angle?
9.04 · 8 = 72.32°

Topic 4: 3D Shapes and Their Cross Sections

What solids are made from the descriptions below?

1) Two parallel bases that are triangles and three rectangles:
triangular prism

2) One square base and four triangles:
square-based pyramid

3) Six rectangular faces:
rectangular prism

4) Six square faces:
cube

5) Richard has figure made out of clay in the shape of a square pyramid. Write the following shapes made by the cuts below:

Cut vertically through apex triangle

Cut vertically not through apex trapezoid

Cut horizontally square

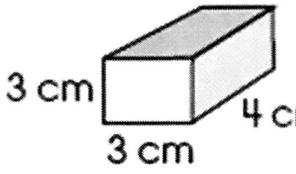
6) A triangular prism is sitting on its base. Write the following shapes made by the cuts below:

Horizontally (parallel to base) triangle

Vertically (perpendicular to base) rectangle

Topic 5: Surface Area and Volume

1) Find the surface area and volume.

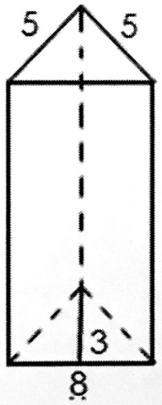


SA 66 cm²

Volume 36 cm³

3·3=9 3·4=12
3·3=9 3·4=12
4·3=12
4·3=12

2)



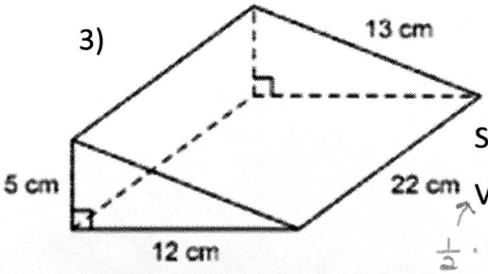
SA 204 units²

Volume 120 units³

$\frac{1}{2} \cdot 8 \cdot 3 = 12 \cdot 10$

12+12+50+50+80

3)



5·22 = 110
12·22 = 264 +30+30
13·22 = 286

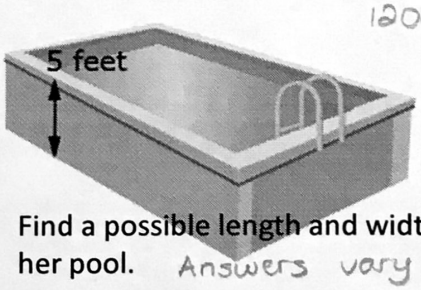
SA 720 cm²

Volume 660 cm³

$\frac{1}{2} \cdot 12 \cdot 5 = 30 \cdot 22$

4. Mitzi has a rectangular swimming pool. She fills it with water to a depth of 5 feet. The water has a volume of 1200 cubic feet.

1200÷5 = 240



Find a possible length and width of her pool. Answers vary

Length 24 (20) Width 10 (10)

Topic 6: Working Backwards

1) The circumference of Molly's circular flower garden is 50.24 feet. Find the following measurements:

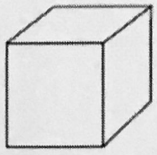
Radius 8 ft

Diameter 16 ft

Area 200.96 ft²

50.24 = π·d
16 = d
π·8²

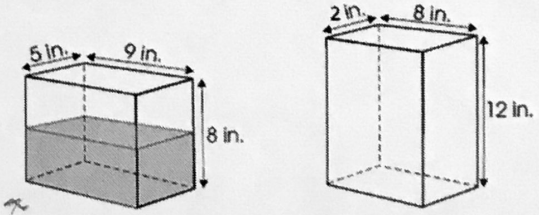
2) The surface area of a certain cube is 864 square inches.



What is the area of each side of the cube?

864÷6 = 144 in²

3) The first tank shown is half filled with water. The water from this tank is poured into the second tank, which is empty.



What height will the water reach in the second tank?

Volume = 5×9×4
= 180 in²

180 = 8·h
180 = 16h
11.25 in = h