**A**

36) A rectangular back yard has a length of 90 yd. and an area of 4500 $yd^2$. What is the width?

36) $\boxed{4500 yd^2}$ 90 yd

$A = L \times W$

$4500 = 90W$

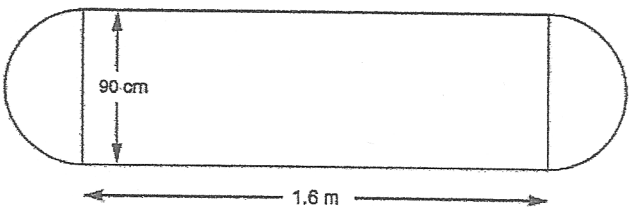
$50 = W$

$\boxed{\text{width} = 50 yd}$

**B**

37)

Find the surface area of the shape below, using $\pi = 3.142$.




change meters to centimeters (x 100)

37)

a) rectangle $= 90cm \times 160 cm = 14,40 cm^2$

b) 2 half circles $= \pi r^2 = 3.14(45)^2 =$

$A = 3.14 \cdot 2,025 = 6,358.5 cm^2$

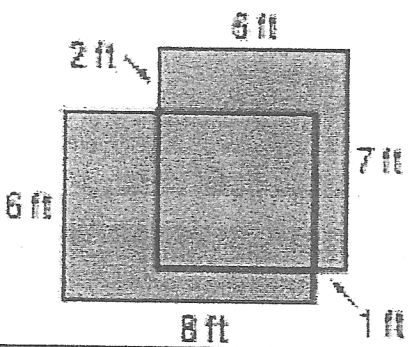
a) $144 \times 100 = 14,40 \ cm^2$ (change to cm)

$+ \ 6,358.5 cm^2$

$\boxed{\text{Total Area: } 7,798.5 cm^2}$

**C**

38) Find the area of the figure below.




38) Area of one rectangle:

$b \cdot h = 6 \cdot 7 = 42 ft^2$

Area of second rectangle:

$b \cdot h = 6 \cdot 8 = 48 ft^2$

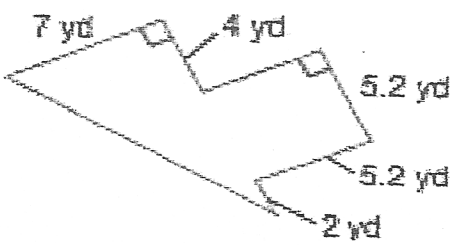
Overlap $= 5 \times 5 = 25 ft^2$

$42 + 48 - 25 = 65$

$\boxed{\text{Total Area} = 65 ft^2}$

**B**

39) Find the area of the figure below.




39)

Area of the Triangle:

$\frac{1}{2}(b \cdot h) =$

$\boxed{h = 4 + 5.2 + 2 \quad h = 11.2}$

$\frac{1}{2}(7 \times 11.2) = 39.2$

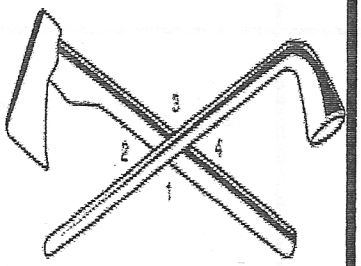
Area of the Square:

$b \cdot h = 5.2 \times 5.2 = 27.04$

$\boxed{\text{Total Area} = 39.2 + 27.04 = 66.24 yd^2}$

**A**

40) Name a pair of vertical angles.




40) ∠3 & ∠1

∠2 & ∠4

vertical angles are always congruent.

**A**

41) **If m<A = 56.4 °:**

a) What is the supplement?

b) What is the complement?

41)

a) 180 − 56.4 = 123.6°

b) 90 − 56.4 = 33.6°

**A**

42) Will the following side lengths make a triangle? Explain why or why not.

a) 9, 5, 13

b) 10, 12, 2

42)

a) Yes 9+5 > 13

13+5 > 9

13+9 > 5

b) NO 10+2 ≯ 12

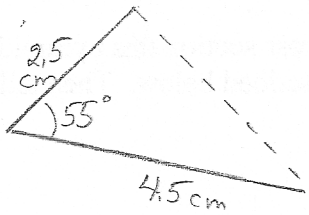
* any 2 sides of a triangle added together must be longer than the third side.

**A**

43) Use a protractor and a ruler to construct a triangle with two adjacent sides and an angle of 55° between them.

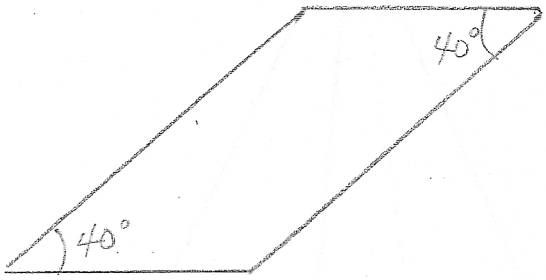
Sides are: 2.5cm & 4.5cm

43)




**A**

44) Draw a parallelogram with an acute angle of 40°.




**C**

45) What is the range of side lengths that could make the 3rd side of a triangle given the sides 8 in. and 4 in?

45)

Range of the 3rd side:

8, 4, ____

8+4 > 11

4+__ > 8

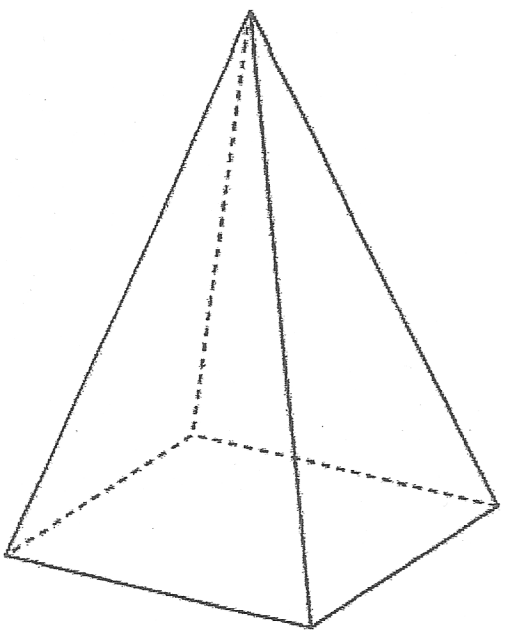
$\boxed{> 4 \text{ and } < 12}$

**B**

46) Draw a cross section this pyramid when it is cut by the planes described below. Then tell what shape is produced.

a) Perpendicular to its base

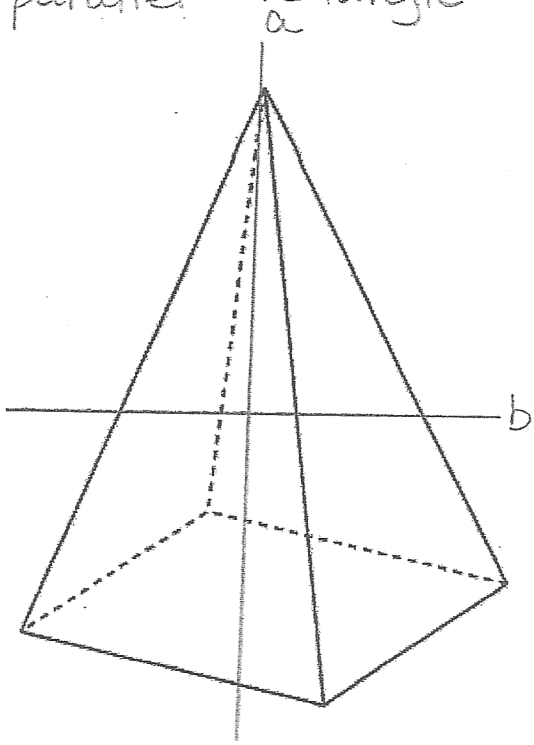
b) Parallel to its base



46)

a) perpendicular = triangle

b) parallel = rectangle




**B**

47) What is the base of a parallelogram with an area of 144 inches and height of 16?

47)

16 $\boxed{144 in^2}$

$A = b \cdot h$

$\frac{144}{16} = \frac{b \cdot 16}{16}$

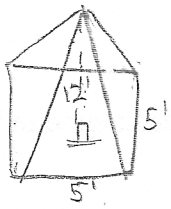
$9 = b$

$\boxed{\text{base} = 9 in}$

**B**

48) A building has a roof made up in part by a square pyramid with a base area of 25 square feet and a height of 12 feet. What is the volume of the pyramid?

48)




square base = $25\ ft^2$

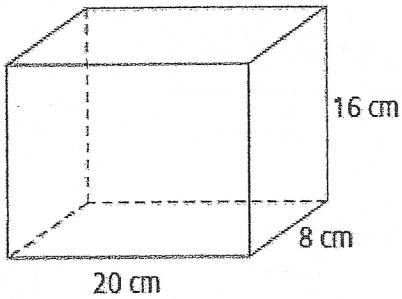
height = 12 ft

$$V = \frac{\text{Area of Base} \times \text{height}}{3}$$

$$V = \frac{(25)(12)}{3} = \frac{300}{3} = \boxed{100\ ft^3}$$

**B**

49) Find the surface area and volume of this prism.



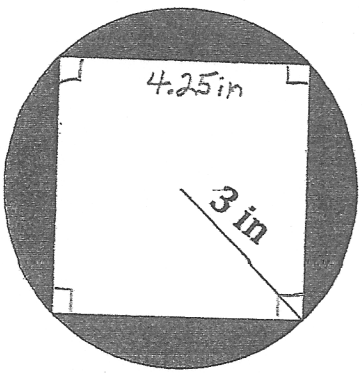

49)

$$SA = 2(20\times8) + 2(8\times16) + 2(20\times16)$$
$$= 2(160) + 2(128) + 2(320)$$
$$= 320 + 256 + 640$$
$$\boxed{SA = 1{,}216\ cm^2}$$

$$V = l \times w \times h$$
$$= 20 \times 8 \times 16$$
$$\boxed{V = 2{,}560\ cm^3}$$

**B**

50) Find the area of the shaded region in the figure below.




50)

Area of the circle: $\pi r^2$

$3.14 \times 3^2 = 3.14 \times 9 = \boxed{28.26 \text{ in}^2}$

Area of the square: $b \cdot h$

$4.25 \times 4.25 = 18.0625 \text{ in}^2$

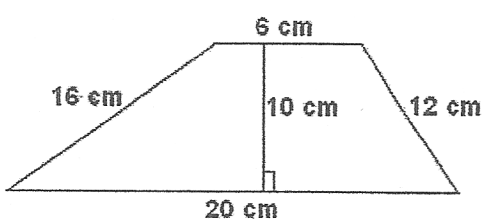
Circle − Square = shaded area

$28.26 - 18.0625 = 10.1975 \text{ in}^2$

$\sim 10.2 \text{ in}^2$

**A**

51) Find the area of the trapezoid below.




51) $A = \frac{(b_1 + b_2)h}{2}$

$A = \frac{(6+20)(10)}{2}$

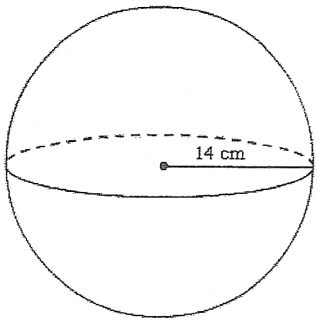
$A = \frac{(26)(10)}{2}$

$A = \frac{260}{2}$

$\boxed{A = 130 \text{ cm}^2}$

**A**

52) Find the surface area of the sphere.




52)

$SA = 4\pi r^2$

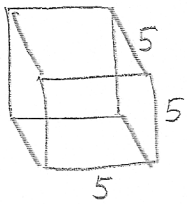
$= 4(3.14)(14)^2$

$= (12.56)(196)$

$\boxed{SA = 2{,}461.76\ cm^2}$

**B**

53) The volume of a cube is 125 $cm^3$. Find the surface area. (Draw a picture to help you find the answer).




$V = 125 cm^3$ $\quad \sqrt[3]{125} = 5$

$V = 5 \cdot 5 \cdot 5$

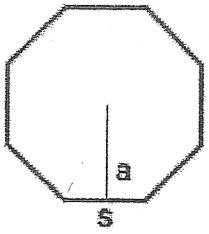
$SA = 2(5 \cdot 5) + 2(5 \cdot 5) + 2(5 \cdot 5) =$

$50 + 50 + 50$

$= \boxed{150 cm^2}$

**C**

54)




s = 7.5 cm

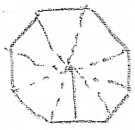
a = 9.053 cm

Area: _____

Perimeter: _____

Type: _____

54) Triangle =



$\frac{7.5(9.053)}{2} = 33.95$

$A = 8\ \triangle's = 8(33.95) = \boxed{271.6\ cm^2}$

$P = (7.5)(8) = \boxed{60 cm.}$

Type: regular octagon.