Name_____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Solve.

1) The aerial view of a roof is shown in the figure. (a) How many squares (100 sq ft) of shingles are needed for the roof? (b) How many feet of gutters are needed?

1) _____

13'

22' 10' 10' 22'

12'

12'

13'

$2\left(\frac{1}{2}\right)(22)(10)$ 220 144

$2\left(\frac{1}{2}\right)(13)(12)$ $\frac{156}{376}$ $\boxed{4\ squares}$

$2(13)+2(22)$ 26

A) (a) 3 squares, (b) 70 ft

B) (a) 3 squares, (b) 75 ft

C) (a) 4 squares, (b) 70 ft 14 70

D) (a) 4 squares, (b) 75 ft

2) The floor plan of an office building is shown in the figure. If the entire surface is to be covered in carpet costing $32 per square yard, what will be the total cost of the carpet? (Assume that all corners are right angles. Round to the nearest dollar.)

2) _____

54 ft

46 ft   24 ft

34   12 ft

20 ft

22 ft

$\begin{array}{l} 20(12) \\ 54(12) \\ 34(22) \end{array}$ $\begin{array}{l} 240 \\ 648 \\ 748 \end{array}$

1

$1636\ sq.ft$

A) $7182

B) $5817

C) $1649

D) $7893 $\times 32$

$\dfrac{9\ sq\ ft}{1\ sq\ yd}$

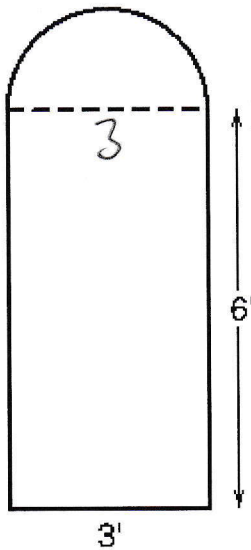$1636\ sq\ ft\left(\dfrac{1\ sq\ yd}{9\ sq\ ft}\right)32$

1

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

3) At $2.05 per foot, what will be the cost of the molding around the window shown? Do not compute for the bottom edge.
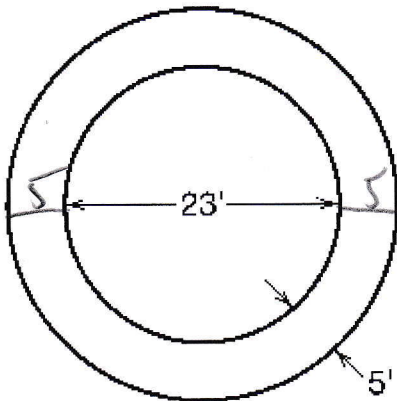
3) _____

$\frac{1}{2}\pi(3) + 12$

$(3\pi + 12)(2.05)$

$\$43.92$

4) If a circular pool with a diameter of 23 feet is enclosed by a wooden deck that is 5 feet wide, what is the area of the deck? Round to the nearest tenth.
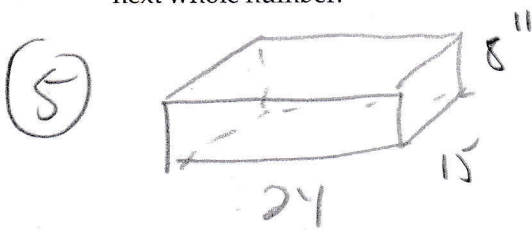
4) _____

$r = \frac{23}{2}$ 11.5

$R = \frac{33}{2}$ 16.5

$\pi(16.5)^2 - \pi(11.5)^2$

$439.8 \; sq. ft$

5) How many cubic yards of concrete are needed to pour a concrete slab 24 feet long, 14 feet wide and 8 inches thick? Round to the nearest tenth.

5) _____

6) A 7-foot hole is dug that measures 26 feet by 26 feet. If a truck with a capacity of 6 cubic yards is used to haul away the dirt, how many trips must the truck make? Round up to the next whole number.
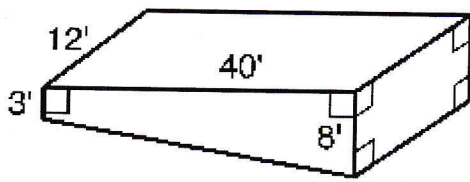
6) _____

$\frac{1 \, cu \, yd}{27 \, cu \, ft}$ $\dfrac{24(15)\frac{8}{12}}{27}$ $\dfrac{240}{27}$

$7 \, cu \, yd$

$7(26)(26) = \dfrac{4732 \, cu \, ft}{27}$ $\dfrac{175.3 \, cu \, yd}{6}$ $29.2 \rightarrow 30 \, trips$

7) Calculate the gallons of water needed to fill this swimming pool. Round to the nearest gallon. One cu. ft of water contains 7.5 gallons

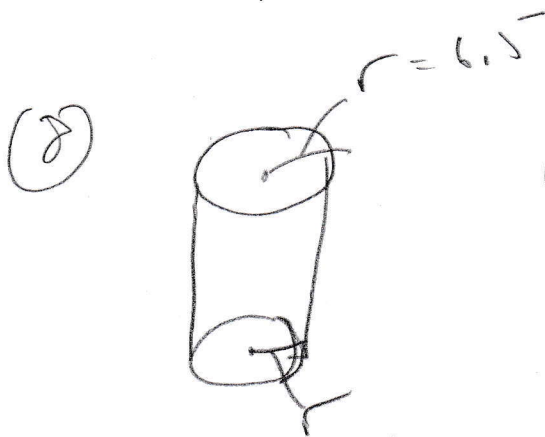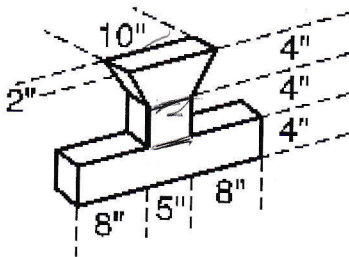7) _____

Trapezoidal Prism

$\frac{1}{2}(8+3)(40)(12)$

$11(40)(6)$

2640 cu ft
× 7.5
(19800)

8) A cylindrical tank has a capacity of 14,892 gallons. If it has a radius of 6.5 feet, what is the height of the tank? Round to the nearest foot.

8) _____

9) Find the weight of the piece of steel pictured. Steel weights 0.2833 pounds per cubic inch. Round to the nearest hundredth.

9) _____

(8)

$r = 6.5$

$\left(\pi(6.5)^2 h\right)7.5 = 14892$

$132.7 h = 1990.64$

$h \approx 15$ feet

(9) Trapezoidal Prism

rect. Prism

$\frac{1}{2}(10+5)4(2)$ 60

$5(4)2$ 40

$21(4)2$ $\frac{168}{268}$ cu in

× .2833

3

75.92