Exam

Name_____

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

1) What is the difference between a subscript and an exponent?   1) _____

   Answer: An exponent is a mathematical operation. A subscript is used to define a variable a
            specific feature or component of a variable.

2) What is the difference between a formula and a working equation?   2) _____

   Answer: A formula is a basic equation, usually expressed in letters and numbers. A working
            equation is created when the desired variable is isolated on one side of the equation.

3) What is the purpose of estimation when problem solving?   3) _____

   Answer: Estimating the expected answer in problem solving can serve as a check to make
            sure the answer is correct.

4) Solve for m in the formula $F = ma$.   4) _____

   Answer: $m = \dfrac{F}{a}$

5) Solve for t in the formula $s = 1/2\,(v_f + v_i)t$.   5) _____

   Answer: $t = \dfrac{2s}{v_f - v_i}$

6) Solve for v_f in the formula $s = 1/2\,(v_f + v_i)t$.   6) _____

   Answer: $v_f = \dfrac{2s}{t} - v_i$

7) Solve for h in $PE = mgh$.   7) _____

   Answer: $h = \dfrac{PE}{mg}$

8) Given $A = 1/2\,bh$, if $b = 10.0$ cm and $h = 12.2$ cm, what is A?   8) _____

   Answer: $A = 61.0$ cm^2

9) A cone has a volume of 315 cm^3 and a radius of 7.50 cm. What is its height? 9) _____

   Answer: $h = 5.35$ cm

10) A right triangle has a side of 82.4 mm and a side of 19.6 mm. Find the length of the   10) _____
    hypotenuse.

    Answer: 84.7 mm

11) Given a cylinder with a radius of 14.4 cm and a height of 16.8 cm, find the lateral surface   11) _____
    area.

    Answer: $A = 1520$ cm^2

12) A rectangle has a perimeter of 80.0 cm. One side has a length of 28.0 cm. What is the   12) _____
length of the adjacent side?

Answer: 12.0 cm

13) The formula for the volume of a cylinder is $V = \pi r^2 h$. If $V = 4520 \text{ m}^3$ and $h = 36.0$ m, find r.   13) _____

Answer: r = 6.32 m

14) The formula for the area of a triangle is $A = 1/2 \, bh$. If b = 3.12 m and $A = 82.6 \text{ m}^2$, find h.   14) _____

Answer: h = 52.9 m

15) A rectangular parking lot measures 80.0 m by 75.0 m. If the parking lot needs three   15) _____
sections that each measure 8.00 m by 8.00 m for tree plantings, how much area is left for
parking spaces?

Answer: $A = 5810 \text{ m}^2$