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?
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?
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?
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.
Answer: m = F/a

5) Solve for t in the formula $s = 1/2 (v_f + v_i)t$. □
Answer: $t = 2s / (v_f + v_i)$

6) Solve for v_f in the formula $s = 1/2 (v_f + v_i)t$. □
Answer: $v_f = (2s/t) - v_i$

7) Solve for h in PE = mgh. □
Answer: h = PE / mg

8) Given $V = \pi r^2 h$, if r = 5.0 cm and V = 250 cm^2, what is h?
Answer: h = 3.2 cm

9) Given A = 1/2 bh, if b = 10.0 cm and h = 12.2 cm, what is A? □
Answer: A = 61.0 cm^2

10) A cone has a volume of 315 cm^3 and a radius of 7.50 cm. What is its height? □
Answer: h = 5.35 cm

11) A right triangle has a side of 82.4 mm and a side of 19.6 mm. Find the length of the hypotenuse. □
Answer: 84.7 mm

12) Given a cylinder with a radius of 14.4 cm and a height of 16.8 cm, find the lateral surface area.
Answer: 1520 cm^2

13) A rectangle has a perimeter of 80.0 cm. One side has a length of 28.0 cm. What is the length of the adjacent side? □
Answer: 12.0 cm

14) The formula for the volume of a cylinder is $V = \pi r^2 h$. If V = 4520 m^3 and h = 36.0 m, find r. □
Answer: r = 6.32 m

15) The formula for the area of a triangle is A = 1/2 bh. If b = 3.12 m and A = 82.6 m^2, find h. □

Answer: h = 52.9 m

16) A rectangular parking lot measures 80.0 m by 75.0 m. If the parking lot needs three 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 m^2