TEST BANK

NINTH EDITION

Applied Physics

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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.

   1) _____

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.

   2) _____

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.

   3) _____

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

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

   4) _____

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

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

   5) _____

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

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

   6) _____

7) Solve for h in PE = mgh.

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

   7) _____

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

   Answer: A = 61.0 cm^2

   8) _____

9) 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

   9) _____

10) 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

   10) _____

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

   Answer: A = 1520 cm^2

   11) _____

12) 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

   12) _____

13) The formula for the volume of a cylinder is V = πr^2h.   If V = 4520 m^3 and h = 36.0 m,

   fin d 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 m^2, find h.

Answer: h = 52.9 m

14) _____

15) 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

15) _____

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

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

4) $m = \dfrac{F}{a}$

5) $t = \dfrac{2s}{v_f - v_i}$

6) $v_f = \dfrac{2s}{t} - v_i$

7) $h = \dfrac{PE}{mg}$

8) $A = 61.0 \text{ cm}^2$

9) $h = 5.35$ cm

10) 84.7 mm

11) $A = 1520 \text{ cm}^2$

12) 12.0 cm

13) $r = 6.32$ m

14) $h = 52.9$ m

15) $A = 5810 \text{ m}^2$