Name: Date:
Instructor: Section:

Practice Set 2.2

Use the choices below to fill in each blank

interest	simple interest	formula	isolate	day(s)
principal	compound interest	year(s)	month(s)	accumulated

1. An equation that is a mathematical model of a real-life situation is called a(n) _____.

2. To solve a formula for a variable, _____ the variable.

3. $I = prt$ is the formula for finding _____.

4. $A = P\left(1 + \frac{r}{n}\right)^{nt}$ is the formula for finding _____ .

5. In the formula $A = P\left(1 + \frac{r}{n}\right)^{nt}$, the n represents the number of times interest is compounded per _____.

6. In the formula $A = P\left(1 + \frac{r}{n}\right)^{nt}$, the t represents the time measured in _____.

7. In the formula $A = P\left(1 + \frac{r}{n}\right)^{nt}$, the A represents the amount of money _____.

8. In the formula $i = prt$, the i represents the amount of _____.

Evaluate the following formulas for the values given. Use the π key on your calculator for π when needed.

9. $A = 4\pi r^2$ when $r = 4$ **9.**_____
(surface area of a sphere)

10. $A = \pi r^2$ when $r = 4$ **10.**_____
(area of circle)

11. $m = \frac{1}{2}(b_1 + b_2)$ when $b_1 = 4,\ b_2 = 8$ **11.**_____
(length of median of a trapezoid)

12. $C = 2\pi r$ when $r = 4$ **12.**_____
(circumference of a circle)

13. $A = \frac{4}{3}\pi r^3$ when r = 4 **13.**_____
(volume of sphere)

14. $A = e^3$ when $e = 4$ **14.**_____
(volume of a cube)

15. $x = \frac{-b + \sqrt{b^2 - 4ac}}{2a}$ when $a = 2$, $b = 3$, and $c = 1$ **15.**_____
(from the quadratic formula)

16. $V = \sqrt{\frac{25{,}000dp}{l}}$ when $d = 2$, $p = 0.02$, $l = 10$ **16.**_____
(air velocity in a pipe in feet per second)

Solve each equation for y.

17. $2x + y = 10$

18. $x - 3y = 12$

17._____

18._____

19. $-3x + 2y = 13$

20. $9x = 5y + 23$

19._____

20._____

21. $\frac{x}{3} - \frac{y}{4} = 5$

22. $3(x-2) = \frac{2}{3}(y+6)$

21._____

22._____

Solve each equation for the indicated variable.

23. $d = rt$, for r
(distance formula)

24. $i = prt$, for r
(simple interest)

23._____

24._____

25. $S_n = \frac{n}{2}(a_1 + a_n)$, for n
(sum of terms of an arithmetic sequence)

26. $L = 2\pi rh$, for h
(lateral surface area of cylinder)

25._____

26._____

27. $L = \pi rl$, for l
(lateral surface area of cone)

28. $A = \frac{1}{2} \cdot d_1 \cdot d_2$, for d_1
(area of rhombus)

27._____

28._____

Problem Solving

29. Find the simple interest on \$10,000 invested for 10 years at a 5% annual interest rate.

29._____

30. Find the compound interest on \$7000 invested for 5 years at a 3% annual interest rate compounded monthly.

30._____