

Self Evaluation Skills Inventory Put your responses on the line provided. NO CALCULATORS. Each problem or part of problem is 1 point.

Evaluate problems 1 – 10 by performing the indicated operations and simplify.

1. $(-3)^4 =$ _____ 2. $-3^4 =$ _____ 3. $-\sqrt{64} =$ _____ 4. $10^{-5} \cdot 10^2 =$ _____

5. $|5.6 - 10.4| =$ _____ 6. $\frac{10^4}{10^{-3}} =$ _____ 7. $\frac{6 \cdot (3 - 6) + 6 \cdot 8}{6 \cdot (4 - 1)} =$ _____

8. $3^3 + 12 - 4(5 - 2) =$ _____ 9. $\sqrt{27 - 18} + [-13 - 7 + 5] =$ _____ 10. $|-9 \div |6 - 9| + 5^2| =$ _____

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In problems 11 – 14, convert each of the decimals to a percent.

11. $0.56 =$ _____ % 12. $0.067 =$ _____ % 13. $1.015 =$ _____ % 14. $-0.123 =$ _____ %

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15. Evaluate $\sqrt{a-b}$ given that $a = 81$ and $b = -63$. $\sqrt{a-b} =$ _____

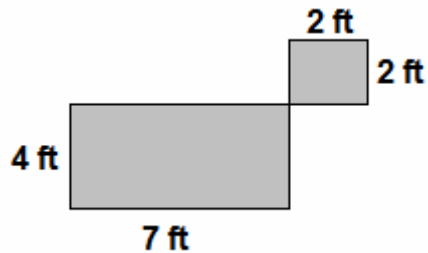
16. Simplify the expression $2.5x - 4 + 3.2x + 7.8$. _____

17. A pest control company sprays insecticide around the perimeter of a 100 ft. by 170 ft. rectangular building. If the spray costs \$0.12 per foot, how much did the job cost to the nearest dollar?

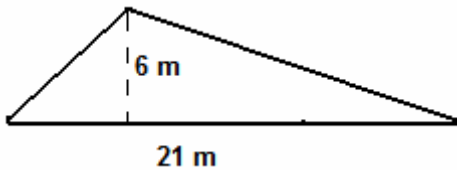
Cost = _____

18. Find the area of the shaded region and state the units for the result.

Answer: _____



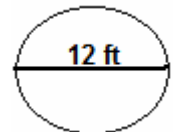
19. Find the area and state the units for the result.



Answer: _____

20. Find the **exact** value of the circumference and state the units for the result.

Answer: _____



21. Solve these equations.

a. $2n + 3.6 = 4n - 8.9$ $n =$ _____

b. $\frac{8}{3}r - \frac{2}{3} = \frac{13}{3} + r$ $r =$ _____

22. Solve these formulas for the indicated variable.

a. $2x - y = 9$; $x =$ _____ b. $A = P + Prt$; $t =$ _____

23. Decide whether or not the given ordered pair is a solution for the given equation. Circle the appropriate response.

a. $y = \frac{3}{4}x - 2$; $(-12, -11)$ YES NO b. $5x + 3y = 35$; $(4, 5)$ YES NO

24. Determine the slope and y-intercept of the graphs of these equations.

a. $y = \frac{3}{5}x - 2$ slope = _____ y-intercept = _____

b. $4x - 3y = 7$ slope = _____ y-intercept = _____

c. $9y - 3x = 18$ slope = _____ y-intercept = _____

25. Perform the indicated operation and simplify as much as possible. Your answers should be expressed without negative exponents.

(a) $x \cdot x^{-8} =$ _____ (b) $x^{12} \div x^3 =$ _____ (c) $\frac{p^2}{p^{-7}} =$ _____ (d) $\frac{z^2 z^{-5}}{z^{-3}} =$ _____

26. Evaluate the rational expression, $f(x) = \frac{3x-5}{x^2-4}$, for the given values of x .

a. $f(3) =$ _____ b. $f(0) =$ _____ c. $f(-2) =$ _____

27. A company rents copiers for a monthly charge of \$120 plus 6 cents per copy. If \$366 per month is budgeted for the use of the copiers, determine the maximum number of copies that can be made each month.

Answer: _____

28. TRUE/FALSE Put the appropriate response on the line provided.

_____ (a) A discount store is offering men's suit for 20% off. Two weeks later (in order to "move" the merchandise) they offer an additional 20% off. So the final price is 60% of the original price.

_____ (b) A convenient approximation to π that is sometimes used is $22/7$. Using $22/7$ provides an approximation accurate to two decimal places.

_____ (c) $\sqrt{x^2} = x$

(There are 40 points; if you get below 28 you might want to reconsider taking this course.)