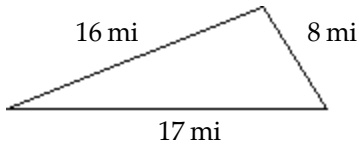


Math 0990 Review Problems

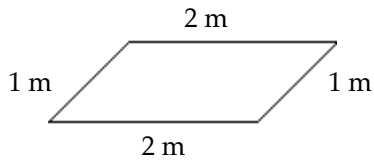
Name _____

Unit M

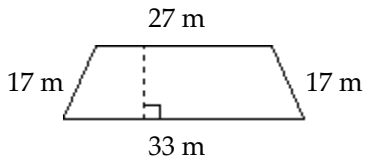
- 1) Find the perimeter of the figure.



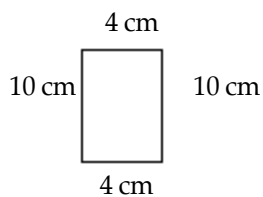
- 2) Find the perimeter of the figure.



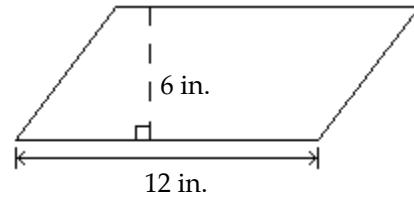
- 3) Find the perimeter of the figure.



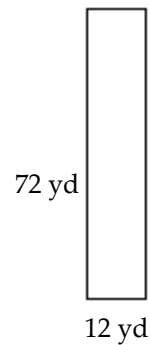
- 4) Find the perimeter of the figure.



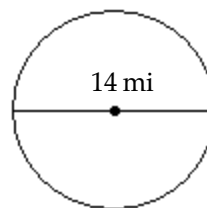
- 5) Find the area of the figure.



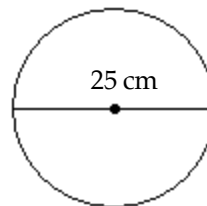
- 6) Find the area of the figure.



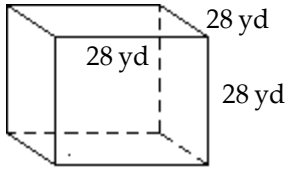
- 7) Find the circumference of the circle. Use 3.14 for π .



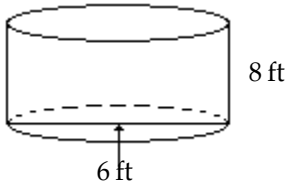
- 8) Find the area of the circle. Use 3.14 for π .



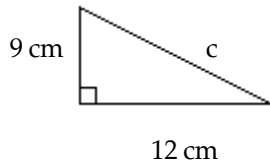
9) Find the volume of the figure.



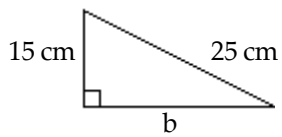
10) Find the volume of the cylinder. Use 3.14 for π .



11) Find the length of the third side of the right triangle. Give an exact answer and, when appropriate, an approximation to the nearest thousandth.



12) Find the length of the third side of the right triangle.



Unit N

13) Simplify the expression..

$$9a - 2a + 7$$

14) Simplify the expression..

$$-1 + 2(11 - 8m)$$

15) Simplify the expression..

$$4p^2 + 5p^3 - 9p^2 - 8p^3$$

16) Simplify the expression..

$$-6(3r + 4) + 5(6r + 3)$$

17) Solve the equation..

$$10r + 2 = 62$$

18) Solve the equation..

$$2n - 5 = 7$$

19) Solve the equation..

$$-3y + 9 = 6 - 2y$$

20) Solve the equation..

$$4x - (2x - 1) = 2$$

21) Solve the equation..

$$4(x + 5) = (4x + 20)$$

22) Solve the equation..

$$\frac{1}{3}(6x - 9) = \frac{1}{4}(12x - 8)$$

23) Solve the equation..

$$-0.1(80) + 0.5x = 0.2(80 + x)$$

Unit O

24) Graph the linear equation.

$$5x = y + 9$$

25) Graph the linear equation.

$$y + 5 = 0$$

26) Find the slope of the line going through the given pair of points.

$$(-4, -3) \text{ and } (-4, 6)$$

27) Determine whether the graphs of the equations are parallel lines, perpendicular lines, or neither.

$$3x - 6y = -1$$

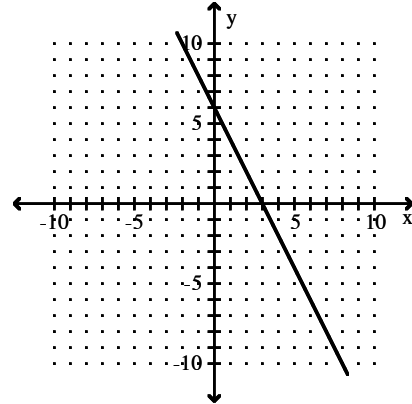
$$18x + 9y = -1$$

28) Determine whether the graphs of the equations are parallel lines, perpendicular lines, or neither.

$$6x + 2y = 8$$

$$18x + 6y = 28$$

29) Write the slope-intercept form of the equation of the line.



30) Write an equation of the line through the given point with the given slope. Write the equation in slope-intercept form.

$$(2, 5); m = -2$$

31) Write the slope-intercept form of the equation for the line passing through the given pair of points.

$$(7, -4) \text{ and } (4, -6)$$

32) Find an equation in slope-intercept form of the line satisfying the specified conditions.

$$\text{Through } (-4, 11), \text{ parallel to } 8x - 7y = -67$$

33) Find an equation in slope-intercept form of the line satisfying the specified conditions.

$$\text{Through } (3, -6), \text{ perpendicular to } -2x + 9y = 48$$

Unit P

- 34) Solve the inequality. Write the solution set in interval notation and graph it.

$$7n + 7 > 6n + 16$$

- 35) Solve the inequality. Write the solution set in interval notation and graph it.

$$-2(2y - 7) < -6y + 12$$

- 36) Solve the inequality. Write the solution set in interval notation and graph it.

$$2 \leq 2t - 4 \leq 8$$

- 37) For the compound inequality, give the solution set in both interval and graph forms.

$$2x - 8 \geq -12 \text{ and } 2x - 8 \leq -4$$

- 38) For the compound inequality, give the solution set in both interval and graph forms.

$$6x + 10 \geq 4 \text{ and } 9x + 5 \geq 23$$

- 39) For the compound inequality, give the solution set in both interval and graph forms.

$$x - 1 > 1 \text{ or } x + 3 < 2$$

- 40) For the compound inequality, give the solution set in both interval and graph forms.

$$-5x + 1 \geq 11 \text{ or } 3x + 3 \geq -9$$

- 41) Solve the equation.

$$|2m + 4| = 9$$

- 42) Solve the inequality and graph the solution set.

$$|2x - 9| \geq 2$$

- 43) Solve the inequality and graph the solution set.

$$|g - 4| < 5$$

- 44) Find the length of a rectangular lot with a perimeter of 104 m if the length is 6 m more than the width.

- 45) Gloria collected 25 fantail and comet goldfish. There were 13 fewer fantails than comets. How many comets did Gloria have?

- 46) In a recent school board election, the two candidates for president received 2651 votes. The loser received 443 fewer votes than the winner. How many votes did the winner receive?

Unit Q

- 47) Apply the product rule for exponents, if possible.

$$(-3x^5y)(-4x^9y^2)$$

- 48) Simplify the expression so that no negative exponents appear in the final result. Assume all variables represent nonzero numbers.

$$(7^{-1} \cdot 6^{-4})^{-3}$$

- 49) Simplify the expression so that no negative exponents appear in the final result. Assume all variables represent nonzero numbers.

$$(4x^{-1})^2(x^2)^{-5}$$

- 50) Simplify the expression so that no negative exponents appear in the final result. Assume all variables represent nonzero numbers.

$$\frac{11r^3(r^3)^5}{16(r^{-1})^3}$$

- 51) Add or subtract as indicated.

$$(4n^6 + 6n - 8n^3) + (-6n^3 + 4n^6 + 3n)$$

- 52) Add or subtract as indicated.

$$(-6x^3 + 9x^2 + 4) - (-5x^3 + 2x - 5)$$

- 53) Find the product.

$$9x^7(-3x^6 - 2x^4)$$

- 54) Find the product.

$$(4x - 12)(x + 6)$$

- 55) Find the product.

$$(n + 5)^2$$

Unit R

56) Perform the division. Write the answer with positive exponents.

$$\frac{21x^4 - 49x^3 + 35x^2}{7x^3}$$

57) Perform the division.

$$(x^2 + 4x - 12) \div (x + 6)$$

58) Perform the division.

$$\frac{p^2 + 5p - 10}{p + 7}$$

59) Factor out the greatest common factor.

$$24m^9 - 24m^7 - 64m^2$$

60) Factor by grouping.

$$10x^2 - 8x - 15x + 12$$

61) Factor completely. If the polynomial cannot be factored, write prime.

$$x^2 - x - 12$$

62) Factor completely. If the polynomial cannot be factored, write prime.

$$3x^2 - 3x - 18$$

63) Factor completely. If the polynomial cannot be factored, write prime.

$$15z^2 + 8z - 16$$

64) Factor completely. If the polynomial cannot be factored, write prime.

$$16x^2 - 9$$

65) Factor completely. If the polynomial cannot be factored, write prime.

$$16x^2 + 49$$

66) Factor the polynomial completely.

$$729p^3 - 1$$

67) Factor the polynomial completely.

$$125c^3 + 729$$

68) Solve the equation.

$$x^2 - x = 20$$

69) Solve the equation.

$$n^2 - 25 = 0$$

70) Solve the equation.

$$r(r - 16) = -64$$