

# Math O990 Final Exam Review Worksheet

Name \_\_\_\_\_

Fill in the blank with the appropriate measurement relationship.

1)  $3 \text{ ft} = \underline{\hspace{1cm}} \text{ yd}$

Convert the units using unit fractions.

2)  $600 \text{ min} = \underline{\hspace{1cm}} \text{ hr}$

3- 5 Write the percent as a decimal.

3) 98%

4) 56.9%

5) 200%

6 - 8 Write the decimal as a percent.

6) 0.4

7) 0.304

8) 2.6

9 - 11 Write the fraction as a percent. Round to the nearest tenth of a percent if necessary.

9)  $\frac{1}{5}$

10)  $\frac{3}{10}$

11)  $\frac{9}{11}$

12 - 17 Answer the percent questions below.

12) What is 30% of 300 colleges?

13) 4.7 miles is what percent of 16 miles?

14) 40% of what number of streets is 54 streets?

15) A computer is on sale for \$390 Find the total cost of the computer after a 5% sales tax.

16) Your restaurant bill is \$47.00. How much will you pay after a 15% tip.

17) A \$230 watch is on sale at 25% off. What is the sale price?

Find the ratio described as a fraction in simplest form.

18) According to an organization's membership list, it has 3250 members who have cable TV and 1750 members who don't have cable. What is the ratio of members who don't have cable to the total number of members?

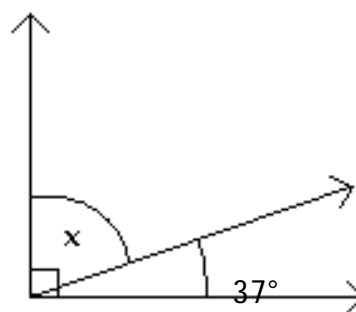
19 - 20 Write the rate as a unit rate.

19) You can travel 585 miles on 15 gallons of gas. How far can you travel with 1 gallon of gas?

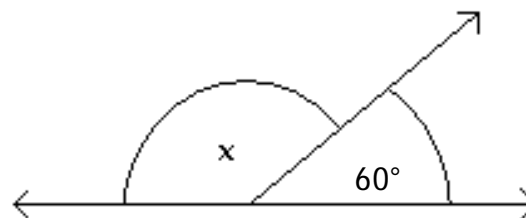
20) How much did a performer make per show if his concert tour grossed \$120,000 for 6 shows.

21 & 22 Find the measure of the indicated angle. The figure is not drawn to scale.

21) Find the measure of  $\angle x$ .

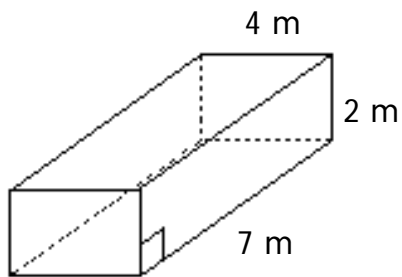


22) Find the measure of  $\angle x$ .

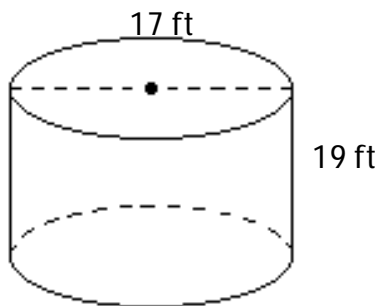


23 - 24 Find the volume of the solid. Use  $\frac{22}{7}$  for  $\pi$  when necessary.

23)

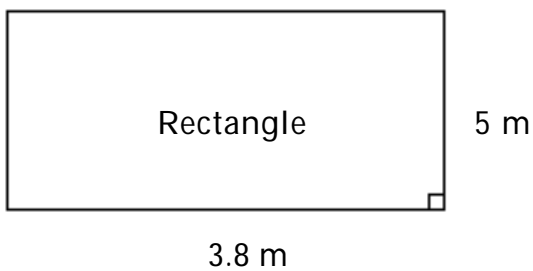


24)

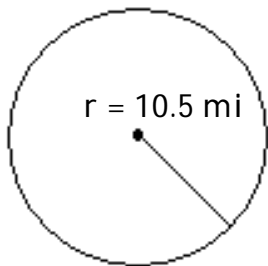


25 - 27 Find the area of the geometric figure.

25)

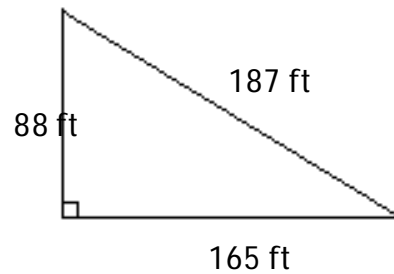


26)



Use 3.14 for  $\pi$ .

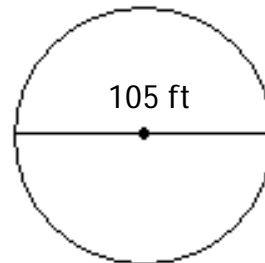
27)



Find the exact or approximate circumference of the circle, as indicated.

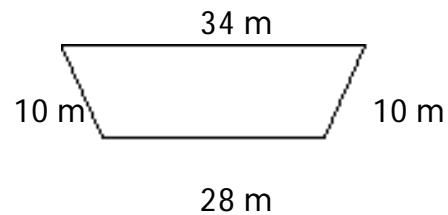
28) Find the approximate circumference. Use  $\frac{22}{7}$

for  $\pi$ .



Find the perimeter of the figure.

29) Trapezoid



30 - 31 Evaluate the expression for the given values. If necessary, round to the nearest tenth.

30)  $5x + 8y + 6$ ;  $x = 0$ ,  $y = 9$

31)  $\frac{x + y}{6x - 9}$   $x = 4$ ,  $y = 3$

32 - 35 Solve the equation.

32)  $2r + 3 = 15$

33)  $6w + 9 = 10 - 7w - 6w$

34)  $6(3x - 1) = 24$

35)  $\frac{2}{5}x - \frac{1}{3}x = 3$

Complete the table of values for the given equation.

36)  $5x + y = -26$

x	-7	0	1
y			

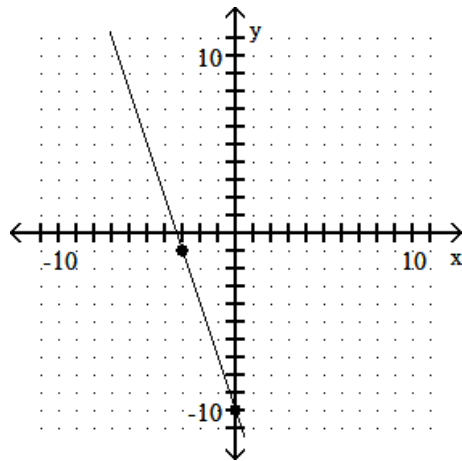
37 - 38 Find the slope of the line going through the given pair of points.

37) (5, -6) and (-4, 9)

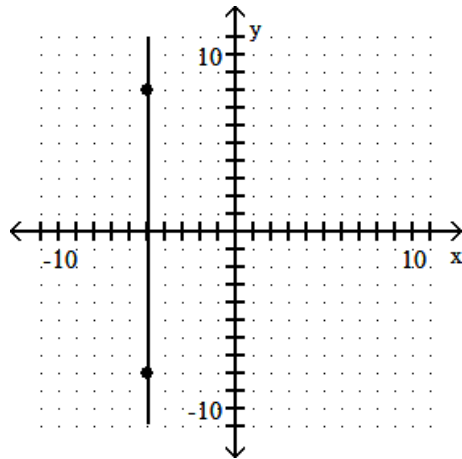
38) (-5, -9) and (-5, 8)

39 - 40 Decide whether the slope is positive, negative, zero, or undefined.

39)



40)



41 - 42 What are the x and y intercepts of the equations below?

41)  $y = 2x - 4$

42)  $3x + 4y = 20$

43 - 44 Find the slope of the line.

43)  $2x - 3y = 16$

44)  $y = 4x + 8$

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

45)  $3x - 4y = 7$

$8x + 6y = 7$

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

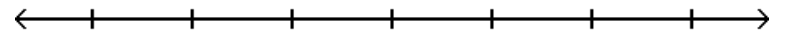
46) Through (-7, 5), parallel to  $7x + 3y = -43$

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

47) (2, -7) and (0, -2)

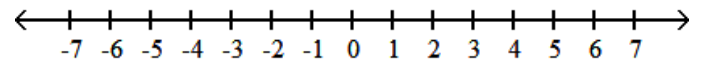
Solve the inequality. Write the solution set in interval notation and graph it.

48)  $-2(2y + 15) < -6y - 14$

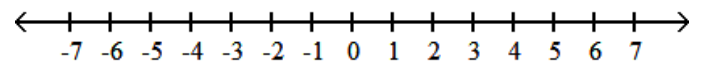


49 - 50 For the compound inequality, give the solution set in both interval and graph forms.

49)  $-12 < 3x - 6$  and  $8x - 4 < 12$



50)  $6x - 4 < 2x$  or  $-4x \leq -12$

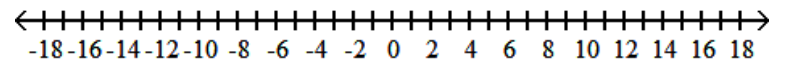


Solve the equation.

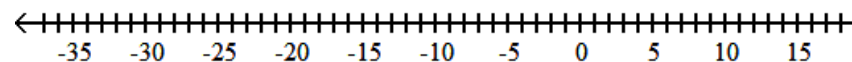
51)  $|6m + 5| = 6$

52 - 53 Solve the inequality and graph the solution set.

52)  $|4 - x| \geq 8$



53)  $|8 - x| \leq 18$



Write the expression with only positive exponents.  
Assume all variables represent nonzero numbers.  
Simplify if necessary.

54)  $5x^{-2}$

Evaluate the expression.

55)  $-10^0$

Apply the product rule for exponents, if possible.

56)  $(-3x^5y)(-4x^9y^2)$

Apply the quotient rule for exponents, if applicable,  
and write the result using only positive exponents.  
Assume all variables represent nonzero numbers.

57)  $\frac{x^{-16}}{x^{-4}}$

Simplify the expression. Write your answer with only  
positive exponents. Assume that all variables represent  
nonzero real numbers.

58)  $\left(\frac{-3w^3}{x}\right)^4$

59 - 60 Simplify the expression so that no negative  
exponents appear in the final result. Assume all  
variables represent nonzero numbers.

59)  $(6x^{-4})^5(x^2)^{-5}$

60)  $\frac{4r^3(r^4)^3}{15(r^3)^{-2}}$

61 - 68 Perform the indicated operations

61)  $(4a^5 + 2a^4) + (6a^5 + 6a^4)$

62)  $(-2r^4 + 9r^3 - 3r) - (8r^4 - 9r^3 + 6r^2 - 2r)$

63)  $11x^3(11x^7 + 12x^4)$

64)  $(x - 7)(4x + 7)$

65)  $(7p - 1)(49p^2 + 7p + 1)$

66)  $(w - 15)^2$

67)  $\left(3t - \frac{8}{7}\right)\left(3t + \frac{8}{7}\right)$

68)  $\frac{x^2 + 2x - 15}{x + 5}$

69 - 74 Factor the polynomial completely.

69)  $t^3 + 27$

70)  $49x^2 - 36$

71)  $15x^2 + 32x + 16$

72)  $x^2 - x - 30$

73)  $30z^6 + 27z^4 + 6z^2$

74)  $10a^3 + 4a^2b - 15ab^2 - 6b^3$

75 - 78 Find all solutions by factoring.

75)  $5x^2 = 5x$

76)  $x^2 + 9x - 22 = 0$

77)  $(x + 6)(x - 1) = -10$

78)  $2x^2 + 14 = x^2 + 9x$