Math Placement Test Review

1) Find the prime factorization 72.

2) Simplify. $\frac{2}{0}$

3) Simplify, if possible. $\frac{24}{56}$

4) Find the product and simplify. $\frac{12}{5} \cdot \frac{15}{14}$

5) Find the quotient. $\frac{30}{-7} \div \frac{6}{35}$

6) Find the LCM of the expressions. $6x^2y^2, x^3y$

7) Use < or > for $\square$ to write a true sentence. $\frac{-3}{8} \square \frac{-3}{4}$

8) Find the sum. $-\frac{2}{8} + \frac{5}{7}$

9) Add. Write a mixed numeral for the answer. $7\frac{1}{4} + 6\frac{5}{7}$

10) Multiply. Write a mixed numeral for the answer. $2\frac{2}{7} \cdot \frac{3}{8}$

11) Divide. Write a mixed numeral for the answer whenever possible. $4\frac{2}{3} \div 1\frac{7}{8}$

12) Write a word name for the number. 907.18

13) Round 57.1716 to the nearest thousandth.

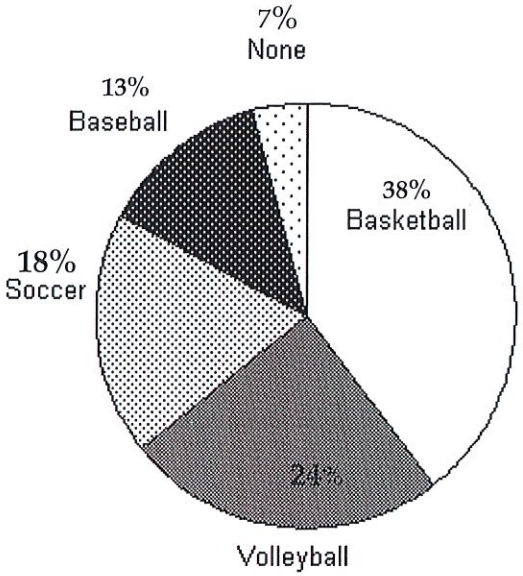
14) Estimate by rounding to the nearest one. 0.06 + 57 + 0.73

15) Find the average. 67, 77, 53, 73, 50, 77, 51

16) Find the median for the set of numbers. 52, 72, 279, 250, 405, 471

17) Find any modes that exist. 5, 9, 97, 3, 2, 8, 23, 1, 4, 16

18) There are 14,000 students attending the local university. The circle graph shows the percentage of those students who attend different sporting events.



What percentage of students **do not** attend Soccer or Basketball matches?

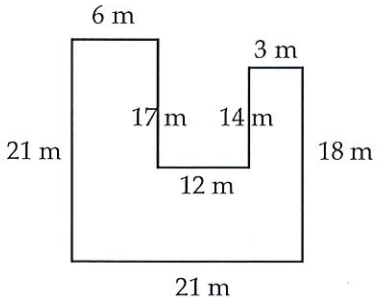
19) This pictograph shows projected sales of compact disks (CDs) for a popular rock band for seven consecutive years.

Year	Projected CD Sales
2013	⊙⊙
2012	⊙⊙⊙⊙⊙⊙
2011	⊙⊙⊙⊙⊙⊙⊙⊙⊙⊙
2010	⊙⊙⊙⊙⊙⊙⊙⊙⊙⊙
2009	⊙⊙⊙⊙⊙
2008	⊙⊙⊙⊙⊙⊙⊙
2007	⊙⊙⊙

⊙ = 100,000 CDs

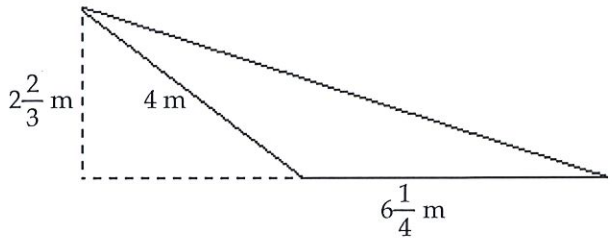
Approximately how many fewer CDs will be sold in 2009 than in 2011?

20) Find the perimeter of the polygon.

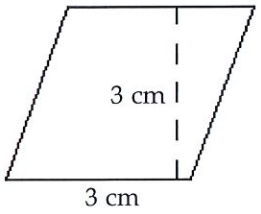


21) Find the area of a rectangle measuring 3.5 yd by 10.47 yd.

22) Find the area.



23) Find the area.



24) State the phrase as a mathematical expression. Use x to represent the variable.
"The quotient of a number and five"

25) Write the word statement in symbols.
"Seventeen is greater than nine plus seven."

26) Evaluate. $-2 \cdot (-2) \cdot (-6)$

27) Divide. $\dfrac{-22}{-3-(-1)}$

28) Find an equivalent expression with the given denominator. $\dfrac{3}{5x} = \dfrac{?}{5xy}$

29) Multiply. $6(3x + 3y + 2)$

30) Factor. $2x - 12y$

31) Factor out the greatest common factor. $5x^2 + 15x$

32) Factor by Grouping. $x^3 - 2x^2 + 6x - 12$

33) Simplify the expression by combining like terms. $-9(5r + 3) + 5(6r + 3)$

34) Simplify. $\dfrac{64 - 3 \cdot 4}{4^3 \div 4^2 - (-4)^2}$

35) Simplify. $[5(x - 4) - 2] + [3(x - 1) + 3]$

36) Simplify. $-|-12| - |-14 - 5|$

37) Simplify. $17 + 14 \cdot 5 - (-9)$

38) Decide if the given number is a solution to the given equation. $9x = 63$; 3

39) Solve the equation. $x - \frac{1}{2} = -\frac{2}{7}$

40) Solve the equation. $2.7 = x - 1.3$

41) Solve the equation. $9y - 4 = 36 + y$

42) Solve the equation. $8x - (4x - 1) = 2$

43) Solve the equation. $3(x + 6) - (3x + 18) = 0$

44) Solve. $V = \frac{1}{3}Bh$ for B

45) Evaluate the formula for the given values of the variables. $P = 2L + 2W$; $L = 9$ in., $W = 4$ in.

46) What is 5% of 300?

47) 21 is 7% of what number?

48) What percent of 1945 is 24?

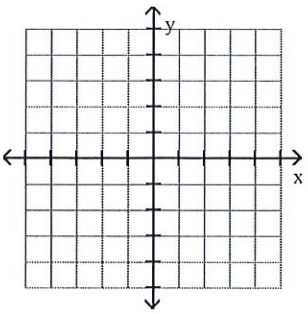
49) The sum of three consecutive even integers is 264. Find the integers.

50) Solve the inequality. $-5a + 7 > -6a - 5$

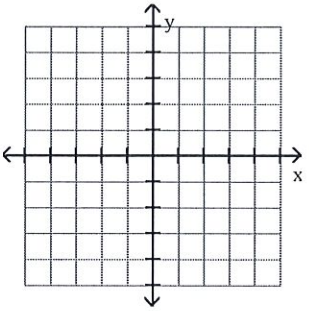
51) Determine whether the given ordered pair is a solution of the equation. $3x + y = 8$; $(2, 2)$

52) Find the coordinates of the x-intercept and the y-intercept, in that order. $-3x + 3y = -3$

53) Plot the ordered pairs on the rectangular coordinate system provided. A(3, 2), B(−1, 2)



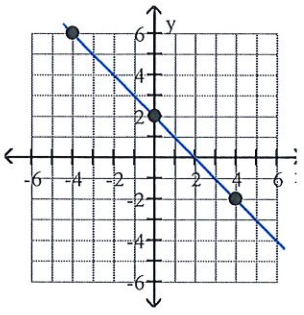
54) Graph the equation. $2x - y = -2$



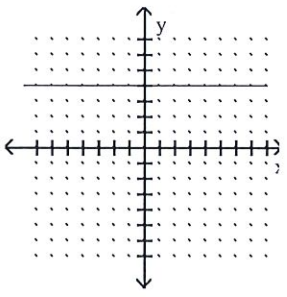
55) Find the slope of the line going through the pair of points. (−7, −9), (9, −9)

56) Find the slope and the y-intercept of the line. $-4x + 8y = 32$

57) Find the slope of the line.



58) Write an equation for the graph.



59) Graph. $x = 2$

60) Find an equation of the line with the given slope and y-intercept. Slope = 5, y-intercept = (0, -2)

61) Find an equation of the line containing the given point and having the given slope. Write the equation in slope-intercept form. (2, 3), m = - 4

62) Find an equation of the line that contains the given pair of points. Write the equation in the form y = mx + b. (2, 0) and (-7, 5)

63) Determine whether the graphs of the equations are parallel lines, perpendicular lines, or neither.
$3x - 4y = 4$
$8x + 6y = 4$

64) Evaluate. cd^0

65) Express using positive exponents. Then simplify. $\frac{1}{x^{-6}}$

66) Evaluate the expresion. $6^{-1} + 2^{-1}$

67) Simplify the expresion. $\frac{y^{-11}}{y^2}$

68) Multiply and simplify using positive exponents. $x \cdot x^{-8}$

69) Use the power rules for exponents to simplify. $(-5x^4y)^2$

70) Simplify. $\left(\frac{4}{b^{-2}}\right)^5$

71) Write the number in scientific notation. 302.01

72) Write the number in scientific notation. 0.000637

73) Convert to decimal notation (without exponents.). 3.46×10^{-4}

74) Convert to decimal notation (without exponents). 2.800×10^4

75) Identify the degree of each term and the degree of the polynomial. $2x^5 - 6x^2 + 9 - 8x^3$

76) Combine like terms whenever possible. Write the result with descending powers.
$-4x^7 + 7x^9 - 3x^8 - 2x^7 + 8x^8 + 9x^9$

77) Evaluate. the polynomial. $-2x^2 - y^2 + xy$, for $x = -2$ and $y = 4$

78) Perform the indicated operation. $(3 + 9x^5 + 9x^2) + (2x^5 - 4x^2 + 8)$

79) Perform the indicated operation. $(6x + 5x^6 - 19x^4) - (-16x^4 + 3x^6 + 13x)$

80) Simplify. $(-6x^2)(5x^3)$

81) Find the product. $6x^2(-9x + 7)$

82) Find the product. $(2x - 4)(x - 9)$

83) Find the product. $(x - 3)(7x^2 + x + 9)$

84) Find the square. $(3x - 5)^2$

85) Decide whether or not the ordered pair is a solution of the system. $(-3, -2)$
$2x = 4 - y$
$4x = 8 - 2y$

86) Solve the system of equations using elimination method.
$x + y = 2$
$x - y = 16$

87) Simplify. $-\sqrt{49}$

88) Simplify the radical. Assume that all variables represent nonnegative real numbers. $\sqrt{4x^2}$

89) Simplify. $\sqrt{(z - 5)^2}$