كلية المجتمع في قطر
Community College of Qatar

Math Placement Test Review

1) Multiply and simplify. $\frac{12xy}{5} \cdot \frac{15}{14x}$

A) $\frac{27}{19}$ B) $\frac{18y}{7}$ C) $\frac{180}{70}$ D) $\frac{14}{15}$

2) Divide and simplify. $\frac{30}{-7} \div \frac{6}{35}$

A) 25 B) -25 C) $-\frac{36}{49}$ D) 5

3) Find the prime factorization 36.

A) $2 \cdot 2 \cdot 3 \cdot 3$
B) $2 \cdot 2 \cdot 2 \cdot 3$
C) $2 \cdot 2 \cdot 2 \cdot 2 \cdot 3 \cdot 3$
D) $2 \cdot 2 \cdot 2 \cdot 2 \cdot 3$

4) Find all the factors of 42.

A) 1, 3, 5, 15, 42
B) 1, 3, 5, 9, 15, 30, 42
C) 1, 2, 3, 6, 7, 14, 21, 42
D) 1, 2, 3, 5, 9, 15, 30, 42

5) Simplify, if possible. $\frac{24x}{56xy}$

A) $\frac{8x}{7y}$ B) $\frac{24}{56x}$ C) $\frac{3}{8}$ D) $\frac{3}{7}$

6) Find the LCM of the expressions. $6x^2y^2,\ 4x^3y$

A) $6x^2y^3$ B) $12x^3y^2$ C) $10x^3y^2$ D) $24x^3y^2$

7) Use < or > for □ to write a true sentence. $\frac{-3}{5}$ □ $\frac{-5}{7}$

A) < B) >

8) Add and, if possible, simplify. $\frac{-2}{8}x + \frac{5}{7}x$

A) $\frac{3}{56}x$ B) $\frac{3}{7}x$ C) $\frac{13}{28}x$ D) $\frac{26}{7}x$

9) Subtract and, if possible, simplify. $\frac{3}{5}x - \frac{1}{10}x$

A) $\frac{1}{5}x$ B) $\frac{7}{10}x$ C) $\frac{2}{5}x$ D) $\frac{1}{2}x$

10) Convert $\frac{34}{3}$ to mixed numeral.

A) $\frac{1}{3}$ B) $12\frac{1}{3}$ C) $11\frac{1}{3}$ D) $10\frac{1}{7}$

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

A) $12\frac{27}{28}$ B) $14\frac{27}{28}$ C) $13\frac{27}{28}$ D) $7\frac{27}{28}$

12) Multiply. Write a mixed numeral for the answer. $2\frac{1}{5} \cdot 3\frac{1}{4}$

A) $6\frac{11}{20}$ B) $-7\frac{3}{20}$ C) $6\frac{13}{20}$ D) $7\frac{3}{20}$

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

A) $2\frac{22}{45}$ B) $3\frac{22}{45}$ C) $2\frac{1}{2}$ D) $2\frac{23}{45}$

14) Write the number 3.03 as a fraction.

A) $\frac{303}{1000}$ B) $\frac{303}{10}$ C) $\frac{3}{100}$ D) $\frac{303}{100}$

15) Write the word name for the number. 907.18

A) Nine hundred seven and eighteen hundredths
B) Nine hundred seventy and eighteen hundredths
C) Nine hundred seventy and eighteen thousandths
D) Nine hundred seven and eighteen thousandths

16) Which number is larger? - 0.9289 and -0.912

A) -0.9289 B) -0.912

17) Round 57.1716 to the nearest thousandth.

A) 57.173 B) 57.172 C) 57.17 D) 57.171

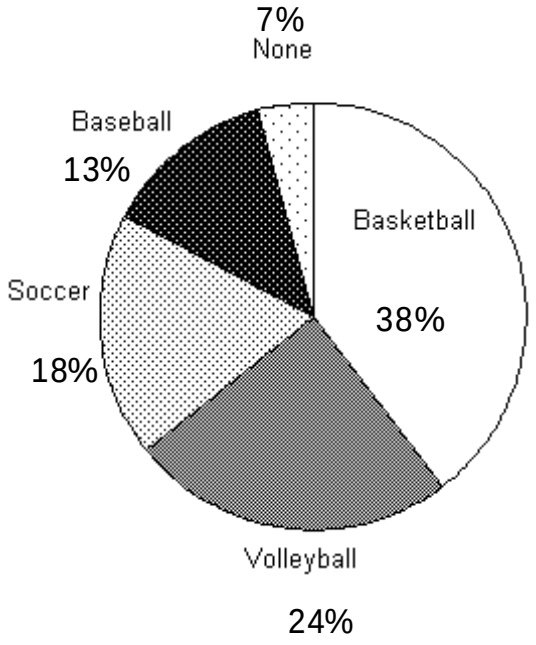
18) Estimate 0.06 + 57.3 + 0.73 by rounding first to the nearest one.

A) 58 B) 56 C) 59 D) 61

19) Estimate 15.9745 + 84.9732 by rounding first to the nearest tenth.

A) 100.4 B) 101.2 C) 101.0 D) 100.7

20) The circle graph shows the percentage of students in a certain college who attend different sporting events.



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

A) 56 % B) 44 % C) 38 % D) 18 %

21) Find the average of the following set of numbers. 67, 77, 53, 73, 50, 77, 51

A) 77 B) 67 C) 64 D) 56

22) Find the median of the following set of numbers. 52, 72, 279, 250, 405, 471

A) 279 B) 218.5 C) 264.5 D) 250

23) Find any modes that exist in the following set of numbers..
5 9 97 3 5 8 23 3 4 5

A) No mode B) 3, 5 C) 3 D) 5

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

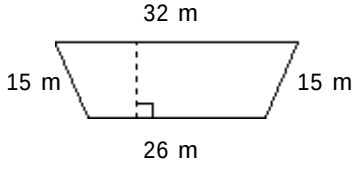
Year	Projected CD Sales
2013	⊙⊙
2012	⊙⊙⊙⊙⊙⊙
2011	⊙⊙⊙⊙⊙⊙⊙⊙⊙
2010	⊙⊙⊙⊙⊙⊙⊙⊙⊙⊙
2009	⊙⊙⊙⊙⊙
2008	⊙⊙⊙⊙⊙⊙⊙
2007	⊙⊙⊙

⊙ = 100,000 CDs

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

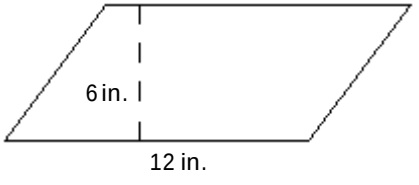
A) 500,000 CDs B) 400,000 CDs C) 600,000 CDs D) 4 CDs

25) Find the perimeter of the polygon.



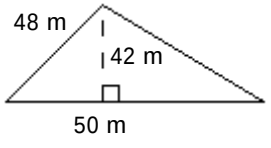
A) 88 m B) 32 m C) 47 m D) 390 m

26) Find the area of the parallelogram.



A) 72 $in.^2$ B) 144 $in.^2$ C) 36 $in.^2$ D) 18 $in.^2$

27) Find the area of the triangle.



A) 1050 m^2 B) 1008 m^2 C) 882 m^2 D) 2100 m^2

28) Find the area of a rectangle measuring 3.5 yd width by 10.47 yd length.

A) 12.25 yd^2 B) 36.645 yd^2 C) 13.97 yd^2 D) 73.290 yd^2

29) Evaluate $-3x^2 + 2y - 10$ when $x = -2$ and $y = 5$

A) 0 B) - 12 C) $-\frac{1}{72}$ D) 72

30) Evaluate $\frac{2x + 4y}{7}$, when $x = 21$ and $y = 63$

A) 15 B) 42 C) 10 D) 294

31) Translate the phrase to an algebraic expression.
" x divided by eight"

A) 8 - x B) $\frac{x}{8}$ C) 8x D) 8 + x

32) Translate the phrase to an algebraic expression.
"Three times x increased by eight"

A) 8x + 3 B) 8x C) 3x - 8 D) 3x + 8

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

A) $\frac{15y}{5xy}$ B) $\frac{3y}{5xy}$ C) $\frac{y}{5xy}$ D) $\frac{3xy}{5xy}$

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

A) 18x + 18y + 2 B) 18x + 3y + 12 C) 18x + 3y + 2 D) 18x + 18y + 12

35) Factor. $2m - 14n + 4$

A) 14(2m - n + 4) B) 2(m - 14n + 4) C) 2(m - 7n + 2) D) 2(m - 7n + 4)

36) Factor. $5x^2 + 15x$

A) $x(5x + 15)$ B) $5x(x + 3)$ C) $5x^2(x + 3)$ D) $5x(x + 15)$

37) Remove parentheses and simplify. $-9(5x+ 3) + 5(6x + 3)$

A) $-15x + 3$ B) $-15x - 12$ C) $-72x$ D) $-4x - 6$

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

A) $8x - 6$ B) $8x - 2$ C) $8x - 22$ D) $5x - 25$

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

A) $\frac{1}{12}$ B) $\frac{13}{5}$ C) $\frac{1}{8}$ D) $-\frac{13}{3}$

40) Simplify. $-12 - \left|-14 - 5\right|$

A) 7 B) -31 C) 31 D) -7

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

A) 146 B) 96 C) 45 D) 164

42) Decide if 3 is a solution to the equation $9x = 63$

A) Yes B) No

43) Solve. $x - \frac{1}{2} = -\frac{2}{7}$

A) $-\frac{3}{14}$ B) $-\frac{11}{14}$ C) $\frac{11}{14}$ D) $\frac{3}{14}$

44) Solve. $27 = x - 13$

A) -14 B) 14 C) 40 D) -40

45) Solve. $9y - 4 = 36 + y$

A) $\frac{16}{5}$ B) 5 C) 4 D) 4

46) Solve. $8x - (4x - 1) = 2$

A) $\frac{1}{4}$ B) $\frac{1}{12}$ C) $-\frac{1}{12}$ D) $-\frac{1}{4}$

47) Solve. $3(x + 6) - (3x + 18) = 0$

A) 6 B) No solution
C) All real numbers D) 0

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

A) $B = \frac{3V}{h}$ B) $B = \frac{V}{3h}$ C) $B = \frac{h}{3V}$ D) $B = \frac{3h}{V}$

49) Evaluate the formula $P = 2L + 2W$ when $L = 9$ in. and $W = 4$ in.

A) P = 13 in. B) P = 72 in. C) P = 26 in. D) P = 144 in.

50) What is 5% of 300?

A) 0.15 B) 15 C) 1.5 D) 150

51) 21 is 7% of what number?

A) 30 B) 3000 C) 300 D) 147

52) What percent of 1945 is 24?

A) 8104.2% B) 22.3% C) 12.3% D) 1.2%

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

A) 81, 82, 83 B) 90, 92, 94 C) 86, 88, 90 D) 88, 90, 92

54) Solve. $-5x + 7 > -6x - 5$

A) $\{x \mid x > 2\}$ B) $\{x \mid x < -12\}$ C) $\{x \mid x > -12\}$ D) $\{x \mid x < 2\}$

55) Solve. $15x - 20 > 5(2x - 12)$

A) $\{x \mid x > -8\}$ B) $\{x \mid x \leq -8\}$ C) $\{x \mid x < -8\}$ D) $\{x \mid x \geq -8\}$

56) Determine whether (2, 2) is a solution of the equation $3x + y = 8$.

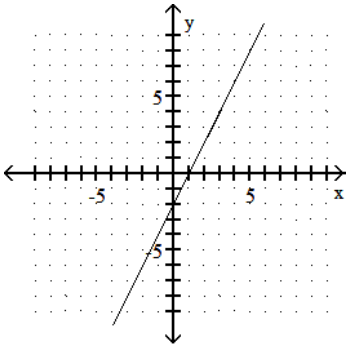
A) No B) Yes

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

A) (0, -1) (0, -6) B) (1, -6) (-1, -3) C) (1, 0) (0, -1) D) (-1, 0) (-6, 0)

58) Graph the linear equation $2x - y = -2$.

A)



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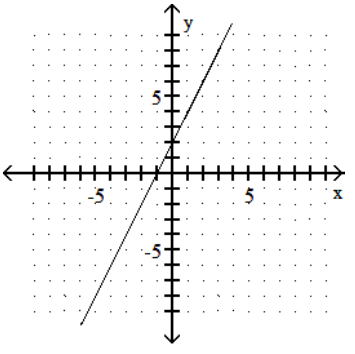

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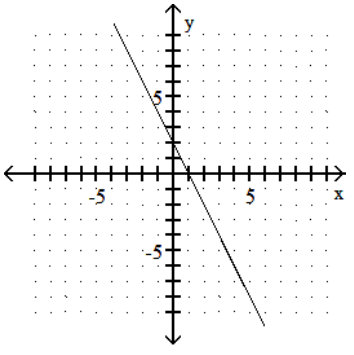

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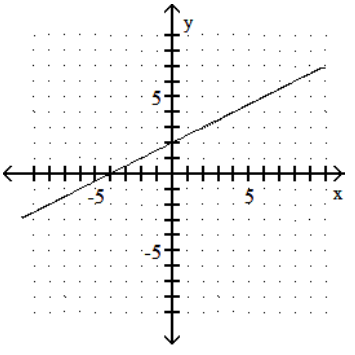


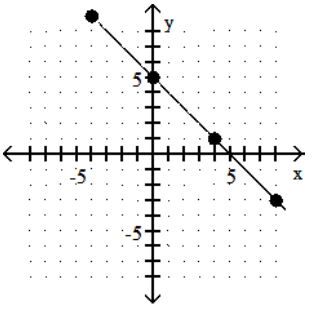
59) Find the slope of the line through the two points. (-7, -9) and (9, -9)

A) 4 B) -4 C) 1 D) 0

60) Find the slope of the line represented by the equation. $-4x + 8y = 32$

A) Slope -2 B) Slope 2 C) Slope $-\frac{1}{2}$ D) Slope $\frac{1}{2}$

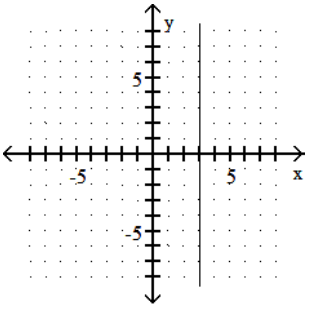
61) Find the slope of the line.



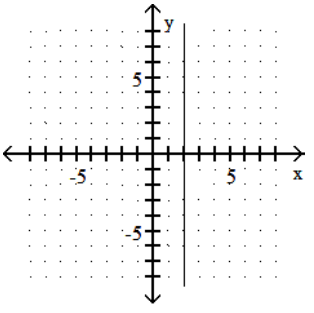
A) 1 B) -1 C) -5 D) 5

62) Graph. $x = 2$

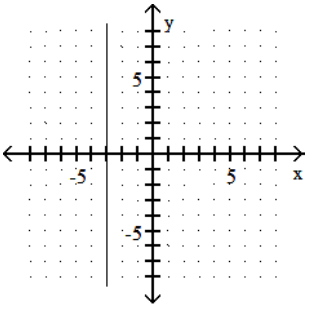
A)



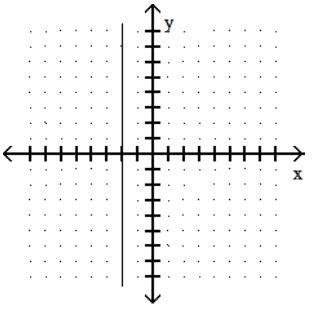
B)



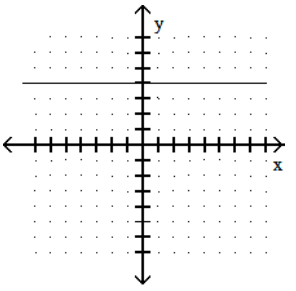
C)



D)



63) Write an equation for the graph.



A) $y = x + 8$ B) $y = 4$ C) $x = 4$ D) $y = x + 4$

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

A) $y = -4x + 11$ B) $y = -\frac{1}{4}x + 11$ C) $y = -4x - 11$ D) $y = -4x + \frac{1}{11}$

65) Find an equation of the line that contains the points (2, 0) and (-7, 5). Write the equation in slope-intercept form.

A) $y = \frac{1}{6}x + \frac{23}{6}$ B) $y = \frac{5}{9}x + \frac{10}{9}$ C) $y = -\frac{1}{6}x + \frac{23}{6}$ D) $y = -\frac{5}{9}x + \frac{10}{9}$

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

$3x - 4y = 4$

$8x + 6y = 4$

A) Parallel B) Neither C) Perpendicular

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

A) $\frac{1}{x^6}$ B) x^{-6} C) $6x$ D) x^6

68) Evaluate. cd^0

A) 1 B) cd C) c D) d

69) Divide and simplify. $\frac{y^{-11}}{y^{2}}$

A) $\frac{1}{y^{-9}}$ B) y^{13} C) y^{9} D) $\frac{1}{y^{13}}$

70) Multiply and simplify. $x \cdot x^{-8}$

A) $\frac{1}{x^{7}}$ B) x^{9} C) x^{7} D) $\frac{1}{x^{9}}$

71) Simplify. $(-5x4y)2$

A) $(-5)2x6y2$ B) $-10x4y$ C) $(-5)2x8y2$ D) $-10x4y2$

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

A) $1024b^{10}$ B) $\frac{b^{10}}{1024}$ C) $\frac{1024}{b^{10}}$ D) $\frac{1}{1024b^{10}}$

73) Write the number in scientific notation. 302.01

A) 3.0201×101 B) 3.0201×102 C) 3.0201×10^{-2} D) 3.0201×10^{-1}

74) Write the number in scientific notation. 0.000637

A) 6.37×10^{-4} B) 6.37×104 C) 6.37×10^{-5} D) 6.37×10^{-3}

75) Convert to decimal notation. 3.46×10^{-4}

A) 0.00346 B) 0.000346 C) -346,000 D) 0.0000346

76) Collect like terms and then arrange in descending order.
$-4x^7 + 7x^9 - 3x^8 - 2x^7 + 8x^8 + 9x^9$

A) $15x^{48}$
B) $16x^9 + 5x^8 - 6x^7$
C) $16x^{18} + 5x^{16} - 6x^{14}$
D) $11x^9 + 11x^8 + 15x^7$

77) Identify the degree of he polynomial. $15x^8yz - 4x^6y^2 + x^5yz^3$

A) 6
B) 5
C) 10
D) 8

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

A) 0
B) -32
C) 16
D) -16

79) Add. $(3 + 9x^5 + 9x^2) + (2x^5 - 4x^2 + 8)$

A) $27x^7$
B) $5x^5 + 5x^2 + 17$
C) $11 + 5x^5 + 11x^2$
D) $11x^5 + 5x^2 + 11$

80) Subtract. $(6x + 5x^6 - 19x^4) - (-16x^4 + 3x^6 + 13x)$

A) $2x^6 - 3x^4 + 19x$
B) $2x^6 - 16x^4 + 19x$
C) $-8x^{11}$
D) $2x^6 - 3x^4 - 7x$

81) Multiply. $(-6x^2)(5x^3)$

A) $11x^6$
B) $-30x^5$
C) $-30x^6$
D) $11x^5$

82) Multiply. $6x^2(-9x + 7)$

A) $-54x + 42$
B) $-54x^3 + 42x^2$
C) $-54x^3 + 7$
D) $-12x^2$

83) Multiply. $(2x - 4)(x - 9)$

A) $x^2 + 36x - 22$ B) $2x^2 + 3x + 36$ C) $x^2 - 22x + 3$ D) $2x^2 - 22x + 36$

84) Multiply. $(x - 3)(7x^2 + x + 9)$

A) $7x^3 - 22x^2 + 6x - 27$ B) $7x^3 + 20x^2 + 6x - 27$
C) $7x^3 - 20x^2 + 6x - 27$ D) $7x^3 - 20x^2 + 12x - 27$

85) Multiply. $(x^2 - 8)^2$

A) $x^4 + 64$ B) $x^4 - 8x^2 + 64$ C) $x^4 - 16x^2 + 64$ D) $x^4 - 8x + 64$

86) Decide whether or not the ordered pair is a solution of the system. (-3, -2)

$2x = 4 - y$

$4x = 8 - 2y$

A) Yes B) No

87) Solve.

$x + y = 2$

$x - y = 16$

A) (-9, -6) B) (8, -6) C) (9, -7) D) No solution

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

A) Not a real number B) -24
C) -8 D) -7

89) Simplify. Remember that we have assumed that radicands do not represent the square of a negative number. $\sqrt{4x^2}$

A) $4x$ B) $2x^2$ C) $2x$ D) $-2x$

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

A) $z - \sqrt{5}$ B) $z - 5$ C) $(z - 5)^2$ D) $\sqrt{z} - 5$

91) Factor. $x^2 - 8x - 20$

A) $(x - 2)(x + 10)$ B) Prime C) $(x - 2)(x + 1)$ D) $(x + 2)(x - 10)$

92) Factor. $2x^2 - 3x - 2$

A) $(3x - 1)(x + 3)$ B) Prime C) $(2x - 1)(x - 1)$ D) $(2x + 1)(x - 2)$

93) Solve. $\frac{7}{x} = \frac{3}{x} + 3$

A) $\frac{3}{4}$ B) $\frac{2}{5}$ C) $\frac{4}{3}$ D) $\frac{3}{10}$

94) Solve $\frac{x + 2}{3} - \frac{x - 2}{4} = 1$

A) -2 B) -13 C) $\frac{2}{7}$ D) 10

95) Solve $\frac{26}{x} = 9 - \frac{1}{x}$

A) $\frac{9}{25}$ B) 3 C) 2 D) $\frac{26}{9}$

96) Solve $\sqrt{2x + 1} = 9$

A) 40 B) 20 C) 80 D) -40

97) Multiply and then, if possible, simplify by factoring. $\sqrt{3} \cdot \sqrt{15}$

A) $\sqrt{45}$ B) $3\sqrt{5}$ C) $\sqrt{5}$ D) $9\sqrt{5}$

98) Add. Simplify by collecting like radical terms, if possible. $5\sqrt{180} + 2\sqrt{45}$

A) $36\sqrt{5}$ B) $-24\sqrt{5}$ C) $-36\sqrt{5}$ D) $24\sqrt{5}$

99) Subtract. Simplify by collecting like radical terms, if possible. $30\sqrt{2} - 14\sqrt{2}$

A) 32 B) 16 C) $44\sqrt{2}$ D) $16\sqrt{2}$

100) Divide and simplify. $\frac{\sqrt{36}}{\sqrt{4}}$

A) 4 B) $\frac{3}{\sqrt{4}}$ C) 3 D) $3\sqrt{4}$

101) Find the Greteast Common Factor (GCF) of $8x^4$ and $32x^3$

A) $32x^4$ B) $12x^3$ C) $8x^4$ D) $8x^3$

102) Find the Greteast Common Factor (GCF) of $-x^2$, $-5x$, and $-25x^7$

A) $-x$ B) $-5x$ C) $-5x^2$ D) $-x^2$

103) Factor. $y^2 - 81$

A) $(y + 81)(y - 81)$ B) $(y + 9)(y - 9)$ C) $(y - 9)(y - 9)$ D) $(y^2 + 9)(y^2 - 9)$

104) Factor. $16x^2 - 49$

A) $(4x - 7)^2$ B) Prime C) $(4x + 7)(4x - 7)$ D) $(4x + 7)^2$