TAIBAH UNIVERSITY   جـامـعة طيبة

Preparatory Year Deanship

Revision Exercises   for Periodic I
Introduction to Mathematics MATH 101
First semester 1436/37 (2015/16)

Solve as you can!!!

Question 1

Use the Venn diagram to determine B'.

A.   B' = {1, 3, 5, 7, 8, 9, 10}

B.   B' = {9, 10}

C.   B' = {0, 1, 2, 3, 5, 7, 8, 9, 10}

D.   B' = {1, 3, 5, 7, 8}

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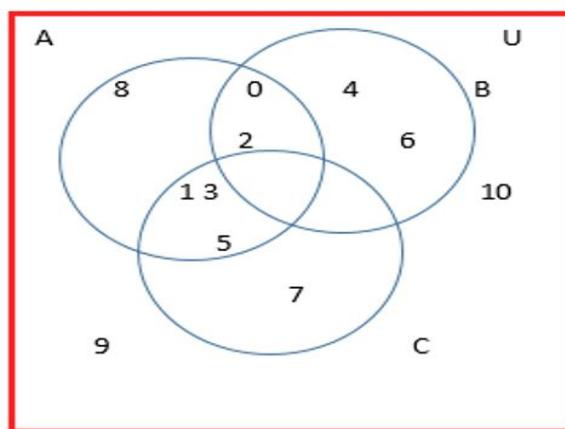
Question 2

Use the Venn diagram to determine B ∩ C.

A. B ∩ C = {4, 6, 7}

B. B ∩ C = {0, 1, 2, 3, 5}

C. B ∩ C = { }

D. B ∩ C = {0, 1, 2, 3, 4, 5, 6, 7}
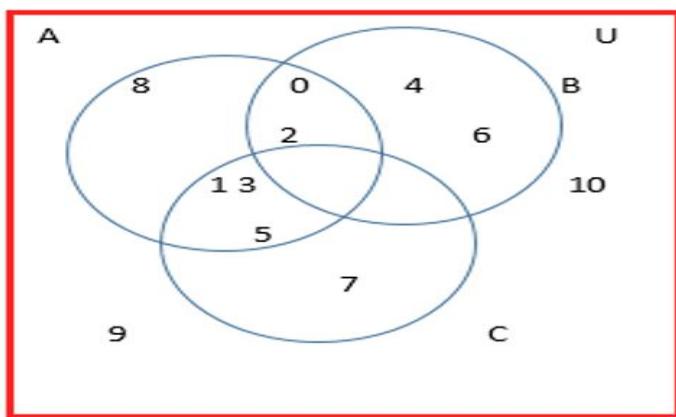
Question 3

$\sqrt{\dfrac{25}{81}}$ is a/an

A. natural number

B. integer

C. irrational number

D. rational number

Question 4

Which expression is *not* a polynomial?

A. $x^3 - 2x^2 + 3x - 2$

B. $-3x + 5x^{14} - 3$

C. $1/x + 2$

D. 5

Question 5

What is the degree of this polynomial?
$4x^5 - 5x^4 - 3x^2 + 2$

A. 2

B. 3

C. 4

D. 5

Question 6

Simplify $(2x^3)(8x^5)$.

A. $16x^{15}$

B. $10x^8$

C. $16x^8$

D. $256x^{15}$

Question 7

Evaluate $[(-4)^0]^5$

A. 5

B. −5

C. 1

D. −1

Question 8

Simplify $\dfrac{(x^3 y^3)^5}{x^5 y^2}$.

A. $x^3 y^6$

B. $x^2 y$

C. $x^{10} y^{11}$

D. $x^{10} y^{13}$

Question 9

Simplify $(-3^3)^3$

A. 3^6

B. -3^9

C. 3^9

D. -3^6

Question 10

$(5p - 1)\,(25p^2 + 5p + 1)$

A. $125p^3 + 30p^2 - 1$

B. $125p^3 - 1$

C. $125p^3 + 1$

D. $25p^3 - 1$

Question 11

Simplify $\dfrac{-6x^9 - 20x^6}{-2x^3}$

A. $13x^{12}$

B. $3x^6 - 20x^6$

C. $-6x^9 + 10x^3$

D. $-13x^{12}$

Question 12

Factor completely: $5m^2 + 20m + 20$

A. $5(m + 2)^2$

B. $5(m + 2)(m - 2)$

C. $5(m - 2)^2$

D. $5(m^2 + 4m + 2)$

Question 13

The greatest common factor of $28r^4s^2 + 7r^3s - 35r^4s^3$ is

A. $7r^3s$

B. r^3

C. rs

D. r^3s

Question 14

Which expression is equivalent to $5x(x + 1) - 3(x + 1)$?

A. $(x + 1)(5x - 3)$

B. $5x - 3(x + 1)$

C. $5x^2 - 2x - 3$

D. $(x + 1)(5x + 3)$

Question 15

When $x^3 - 16x$ is factored completely, the answer is

A. $(x - 4)(x + 4)$

B. $x(x - 4)(x + 4)$

C. $x^2(x - 16)$

D. $x(x - 4)^2$

Question 16

Factor completely $8x^2 - 72$

A. $8(x - 3)(x - 3)$

B. $8(x - 3)(x + 3)$

C. $8(x^2 - 9)$

D. $8(x^2 + 9)$

Question 17

Factor $14xy^2 - 2xy$

A. $2xy\,(7y - 1)$

B. $-2xy^2\,(-7y)$

C. $2x\,(7y^2 - y)$

D. $2y^2\,(7x - 1)$

Question 18

Factor $L^2 - 8L + 12$

A. $(L - 6)(L + 2)$

B. $(L + 6)(L + 2)$

C. $(L - 6)(L - 2)$

D. $(L + 6)(L - 2)$

Question 19

Simplify this rational expression to its lowest terms
$$\frac{1 - w}{w^2 - 1}$$

A. $-(w + 1)$

B. $(w + 1)$

C. $-\dfrac{1}{w+1}$

D. $\dfrac{1}{w+1}$

Question 20

Simplify this rational expression to its lowest terms

$$\frac{9x^4 - 27x^6}{3x^3}$$

A. $3x(1 - 3x)$

B. $3x(1 - 9x^5)$

C. $3x(1 - 3x^2)$

D. $9x^3(1 - x)$

Question 21

Simplify this rational expression to its lowest terms

$$\frac{x - 3}{x^2 - 5x + 6}$$

A. $\frac{3}{x-5}$

B. $\frac{1}{x-2}$

C. $x - 2$

D. $\frac{x}{x-2}$

Question 22

Simplify this rational expression to its lowest terms

$$\frac{x^2 - 2x - 15}{x^2 + 3x}$$

A. -5

B. $\frac{x-5}{x}$

C. $\frac{-2x-5}{x}$

D. $\frac{-2x-15}{3x}$

Question 23

Simplify this rational expression to its lowest terms

$$\frac{2x^2 - 12x}{x - 6}$$

A. 0

B. $2x$

C. $4x$

D. $2x + 2$

Question 24

Determine the LCD of these rational two expressions

$$\frac{1}{x^2 + 7x + 6} \qquad \frac{1}{x^2 + 4x + 3}$$

A. $(x+6)(x-3)(x+1)$

B. $(x+1)(x+3)(x-6)$

C. $(x+6)(x+1)(x+3)$

D. $(x-6)(x-1)(x-3)$

Question 25

Perform this operation and express the answer in the simplest form

$$\frac{-5x}{x-9} - \frac{-8}{x-9}$$

A. $\dfrac{-5x+8}{x-9}$

B. $\dfrac{-5x-8}{x-9}$

C. $\dfrac{x-9}{-5x}$

D. $\dfrac{x+8}{x}$

Question 26

Perform this operation and express the answer in the simplest form

$$\frac{3y+2}{4y-5} - \frac{y-1}{5-4y}$$

A. $\dfrac{y+1}{x-5}$

B. $\dfrac{2y+3}{4y-5}$

C. $-\dfrac{4y+1}{4y+5}$

D. $\dfrac{2y+1}{4y-5}$

Question 27

the simplest form

$$\frac{y^2 + 16y - 14}{(y+2)(y-4)} \quad \text{is}$$

A. $\dfrac{y+8}{-6}$

B. $\dfrac{y^2+16y-17}{(y+2)(y-4)}$

C. $\dfrac{y+8}{(y+2)(y-4)}$

D. None of the above

x

Question 28

Perform this operation and express the answer in the simplest form

$$\frac{2x^2 - 48}{x^2 - 16} - \frac{x+6}{x+4}$$

A. $\dfrac{x-6}{x-4}$

B. $x^2 + 2x - 72$

C. $\dfrac{x+6}{x-4}$

D. $\dfrac{x-6}{x+4}$

Question 29

Perform this operation and express the answer in the simplest form

$$2x + \frac{x}{y}$$

A. $\dfrac{x(2y+1)}{y}$

B. $\dfrac{3x}{y}$

C. $\dfrac{3x}{y}$

D. $\dfrac{2xy + 2x^2}{y}$

Question 30

Perform this operation and express the answer in the simplest form

$$\frac{8}{3(x+8)} + \frac{4}{3(x+8)}$$

A. $\dfrac{4}{(x+8)}$

B. $\dfrac{2}{(x+8)}$

C. $\dfrac{12}{(x+8)}$

D. $\dfrac{4}{(x+8)^2}$

Question 31

Find this product $\dfrac{p^2-5p-6}{7p+7} \times \dfrac{7}{5p^2+15p}$

A. $\dfrac{3p}{p-4}$

B. $\dfrac{8}{(p-10)(p-8)}$

C. $(p-8)(p+9)$

D. $\dfrac{p-6}{5p(p+3)}$

Question 32

Find this quotient $\dfrac{8}{24x-64} \div \dfrac{10}{24x-64}$

A. $\dfrac{4}{5}$

B. $\dfrac{5}{4x^2}$

C. $\dfrac{12}{x-1}$

D. $\dfrac{9x^2(x-3)}{x+8}$

Question 33

Find this quotient $\dfrac{4x}{x-1} \div \dfrac{3x+3}{x^2-1}$

A. $\dfrac{4x}{3}$

B. $\dfrac{4x^2}{3}$

C. $\dfrac{4x^2}{3(x+1)}$

D. $\dfrac{4(x+1)}{3}$

Question 34

Simplify this complex fraction $\frac{4+\frac{2}{x}}{\frac{x}{3}+\frac{1}{6}}$

A. 1

B. 12

C. $\frac{x}{12}$

D. $\frac{12}{x}$

Question 35

Evaluate
$8^{\frac{1}{3}}$

A. 1

B. 2

C. 3

D. 4

Question 36

Evaluate
$$32^{\frac{4}{5}}$$

A. 2

B. 4

C. 8

D. 16

Question 37

Evaluate
$$(-8)^{\frac{4}{3}}$$

A. $\frac{1}{16}$

B. −16

C. 16

D. undefined

Question 38

Simplify

$$a^{\frac{1}{2}} \times a^{\frac{3}{2}}$$

A. $a^{\frac{3}{4}}$

B. $a^{\frac{4}{3}}$

C. a

D. a^2

Question 39

Simplify

$$\frac{a^3 \times a^{\frac{1}{4}}}{a^{\frac{3}{2}} \times a^{-\frac{5}{4}}}$$

A. $a^3 \cdot a^{\frac{1}{2}}$

B. a^3

C. $a^2 \cdot a^{\frac{1}{2}}$

D. a^2

x

Question 40

Evaluate

$$\left(-\frac{1}{64}\right)^{-\frac{1}{3}}$$

A. -4

B. $-\frac{1}{4}$

C. -8

D. $-\frac{1}{8}$

Question 41

Solve $-10x - 1 = -7 + 8x$

1. 3

2. $\frac{1}{3}$

3. -3

4. $\frac{1}{4}$

Question 42

Solve $5x - 6 - 5(x - 1) = -2x - 6$

A. 1

B. $-\frac{7}{2}$

C. $-\frac{7}{5}$

D. $-\frac{5}{2}$

x

Question 43

Solve the equation to determine whether it is an identity, conditional or contradiction.
$3(5x - 2) = 15x - 6$

A. Identity

B. Conditional

C. Contradiction

D. None of the above

Question 44

Solve the equation to determine whether it is an identity, conditional or contradiction.
$6x - 5 = 30 + 6(x - 5)$

A. Identity

B. Conditional

C. Contradiction

D. None of the above

Question 45

Solve the equation to determine whether it is an identity, conditional or contradiction.
$2x + 7 - 2x - 3 = 9x - 9x + 1$

A. Identity

B. Conditional

C. Contradiction

D. None of the above

Question 46

Simplify using real numbers and i.

$$\sqrt{-49}$$

A. $-7i$

B. $7i$

C. ± 7

D. $\sqrt{7}$

Question 47

Simplify using real numbers and i.

$$2\sqrt{-72}$$

A. $2\sqrt{2}$

B. $-12\sqrt{2}$

C. $12i\sqrt{2}$

D. $6i\sqrt{8}$

Question 48

Simplify and write in the standard form of a complex number

$$\frac{-6 - 22i}{2}$$

A. $3 - i\sqrt{22}$

B. $-3 - i\sqrt{11}$

C. $-14i$

D. $-3 - 11i$

Question 49

Simplify and write in the standard form of a complex number

$$12 + \sqrt{-289}$$

A. $12 + 289i$

B. $12 + 17i$

C. $12 - 17i$

D. $12 - 289i$

Question 50

Simplify and write in the standard form of a complex number

$\sqrt{-361} - \sqrt{81}$

A. $9+19i$

B. $10i$

C. $-10i$

D. $-9+19i$

Question 51

Simplify and write in the standard form of a complex number

i^{16}

A. 1

B. $-i$

C. -1

D. i

x

Question 52

Simplify and write in the standard form of a complex number

i^{21}

A. 1

B. $-i$

C. -1

D. i

Question 53

Simplify and write in the standard form of a complex number

i^{42}

A. 1

B. $-i$

C. -1

D. i

Question 54

Simplify and write in the standard form of a complex number

$$\frac{2}{5-3i}$$

A. $\dfrac{5}{8}-\dfrac{3}{8}i$

B. $\dfrac{5}{8}+\dfrac{3}{8}i$

C. $\dfrac{5}{17}+\dfrac{3}{17}i$

D. $\dfrac{5}{17}-\dfrac{3}{17}i$

Question 55

Perform the indicated operation. Choose the correct answer.

$$\left(6+\sqrt{-8}\right)+\left(8-\sqrt{-72}\right)$$

A. $14-4i\sqrt{5}$

B. $14+4\sqrt{2}$

C. $14+4\sqrt{5}$

D. $14-4i\sqrt{2}$

Question 56

Perform the indicated operation. Choose the correct answer.

$(8-3i)\div i$

A. $3+8i$

B. $3-8i$

C. $-3-8i$

D. $-d+3i$

Question 57

Perform the indicated operation. Choose the correct answer.

$(9+7i)-(2+7i)+(9+2i)$

A. $16+16i$

B. $16+2i$

C. $-2-2i$

D. $-2+2i$

Question 58

Perform the indicated operation. Choose the correct answer.

$$(4+8i)(9+5i)$$

A. $76+52i$

B. $40i^2 - 92i - 4$

C. $-4 - 94i$

D. $-4 + 92i$

Question 59

Perform the indicated operation. Choose the correct answer.

$$2 \div (5 - 3i)$$

A. $\frac{5}{8} - \frac{3}{8}i$

B. $\frac{5}{8} + \frac{3}{8}i$

C. $\frac{5}{17} + \frac{3}{17}i$

D. $\frac{5}{17} - \frac{3}{17}i$

Question 60

Perform the indicated operation. Choose the correct answer.

$(3-5i)+(-4+7i)$

A. $-1+2i$

B. $1+2i$

C. $7-12i$

D. $-2+3i$

Question 61

Perform the indicated operation. Choose the correct answer.

$(2+5i)(3-2i)$

A. $-4+11i$

B. $16-19i$

C. $c-10i$

D. $16+11i$

Question 62

Perform the indicated operation. Choose the correct answer.

$(2+5i) \div (3+i)$

A. $\frac{2}{3} + 5i$

B. $\frac{3}{10} + \frac{13}{10}i$

C. $\frac{11}{10} + \frac{13}{10}i$

D. $\frac{11}{8} + \frac{13}{8}i$

Question 63

Perform the indicated operation. Choose the correct answer.

$(3-3i) \div (3+4i)$

A. $-\frac{3}{25} - \frac{21}{25}i$

B. $3 - 3i$

C. $\frac{3}{7} - 3i$

D. $\frac{3}{25} - \frac{21}{25}i$

Question 64

Which of the following is a quadratic equation?

A. $2x^3 - 32 = x$

B. $2x - 10 = 15$

C. $x^2 + 6 = 0$

D. $x + 2 = 10$

Question 65

Which quadratic equation is written in standard form?

A. $8x + 5x^2 - 9 = 0$

B. $5x^2 + 8x - 9 = 0$

C. $5x^2 + 8x = 9$

D. $9 - 8x - 5x^2 = 0$

Question 66

What are the factors of this quadratic equation?

$x^2 - 3x - 4 = 0$

A. $(x+2)(x-2)$

B. $(x-1)(x+4)$

C. $(x-1)(x-4)$

D. $(x-4)(x+1)$

Question 67

Solve this quadratic equation.

$(4x+5)(x+1) = 0$

A. $x = \left\{ \dfrac{5}{4}, 1 \right\}$

B. $x = \{0\}$

C. $x = \left\{ -\dfrac{5}{4}, -1 \right\}$

D. $x = \left\{ \dfrac{5}{4}, -1 \right\}$

Question 68

Solve this quadratic equation by factoring.

$$5x^2 - 44x + 120 = -30 + 11x$$

A. $x = \{6, 5\}$

B. $x = \{-6, -5\}$

C. $x = \{6, -5\}$

D. $x = \{-6, 5\}$

x

Question 69

Solve this quadratic equation by factoring.

$$x^2 = 10x - 24$$

A. $x = \{24, -1\}$

B. $x = \{-4, -6\}$

C. $x = \{4, 6\}$

D. $x = \{1, 24\}$

Question 70

Solve this quadratic equation by factoring.

$$(x+4)^2 - 25 = 0$$

A. $x = \{9, -1\}$

B. $x = \{-29\}$

C. $x = \{-9, 1\}$

D. $x = \{1\}$

Question 71

Evaluate   *(8-3i)(3+2i)*

A.   30+7i

B.   30-7i

C.   -30+7i

D.   -30-7i

Question 72

The equation $x^2 = 121$ has

A. 1 real solution

B. 2 imaginary solutions

C. No solution

D. 2 real solutions

Question 73

The equation $x^2 - 18 = 0$ has

A.   2 real solutions

B.   1 real solution

C.   2 imaginary solutions

D.   No solution

Question 74

The equation $x^2 + 20 = 4$ has

A. 1 real solution

B. 2 real solutions

C. 2 imaginary solutions

D. No solution

-6

Question 75

Find the value of 'c' that will complete the square of the following quadratic polynomial.
$x^2 + 12x + c$

A. 6

B. 36

C. 12

D. -6

Question 76

Use the square root property to solve this quadratic equation.
$x^2 - 4 = 0$

A.   2

B. {4,–4}

C. {2,–2}

D. {1,–1}

Question 77

Use the square root property to solve this quadratic equation
$(x+4)^2 = 25$

A. $\{9, -1\}$

B. $\{-29\}$

C. $\{-9, 1\}$

D. $\{1\}$

Question 78

Use the square root property to solve this quadratic equation

$(x-1)^2 = -12$

A. $-1 \pm 2i\sqrt{3}$

B. -11

C. $3i\sqrt{3}$

D. $1 \pm 2i\sqrt{3}$

Question 79

Solve this quadratic equation by completing the square.

$x^2 - 4x = 5$

A. $\{11, -7\}$

B. $\{1.73, -1.73\}$

C. $\{5, -1\}$

D. $\{1, 3\}$

Question 80

Solve this quadratic equation by completing the square.
$$x^2 - 14x = 0$$

A. $\{0, 14\}$

B. 49

C. ± 7

D. $\{-14, 0\}$

Question 81

The equation $x^2 = 9$ has

A. 1 real solution

B. 1 imaginary solution

C. 2 imaginary solutions

D. 2 real solutions

Question 82

The equation $x^2 - 4x + 4 = 0$ has

A.   1 real solution

B.   2 real solutions

C.   2 imaginary solutions

D.   1 imaginary solution

Question 83

If $ax^2 + bx + c = 0$, then which of the following formulas correctly states the possible value of x ?

A. $-b \pm \dfrac{\sqrt{b^2 - 4ac}}{2a}$

B. $\dfrac{-b \pm \sqrt{b^2 + 4ac}}{2a}$

C. $\dfrac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

D. $\dfrac{b \pm \sqrt{b^2 - 4ac}}{2a}$

Question 84

When will a quadratic equation have two different complex roots?

A. When the discriminant is positive

B. When the discriminant is negative

C. When the discriminant is zero

D. Will never have complex number roots

Question 85

Use the quadratic formula to solve the following equation
$2x^2 = -10x - 7$

A. $\dfrac{-10 \pm \sqrt{11}}{2}$

B. $\dfrac{-5 \pm \sqrt{39}}{2}$

C. $\dfrac{-5 \pm \sqrt{11}}{4}$

D. $\dfrac{-5 \pm \sqrt{11}}{2}$

Question 86

Use the quadratic formula to solve the following equation
$x^2 + x + 4 = 0$

A. $x = \dfrac{1 \pm i\sqrt{15}}{2}$

B. $x = \dfrac{1 \pm \sqrt{15}}{2}$

C. $x = \dfrac{-1 \pm i\sqrt{15}}{2}$

D. $x = \dfrac{-1 \pm \sqrt{15}}{2}$

Question 87

Use the discriminant to determine the type of the solution for
$x^2 + 8x + 16 = 0$

A. 1 rational solution

B. 2 complex solutions

C. 2 irrational solutions

D. 2 rational solutions

Question 88

Find the discriminant value for
$$x^2 + 10x + 25 = 0$$

A. -200

B. 200

C. 100

D. 0

Question 89

Use the quadratic formula to solve this quadratic equation:
$$x^2 = 9 - 4x$$

A. $x = -1 \pm \sqrt{13}$

B. $x = -2 \pm 2\sqrt{13}$

C. $x = -2 \pm \sqrt{13}$

D. $x = 2 + \sqrt{13}$

Question 90

Use the quadratic formula to solve this quadratic equation.

$x^2 - 12 = x$

A. $\{-3, 4\}$

B. $\{1, 12\}$

C. $\{3, 4\}$

D. $\{-3, -4\}$

Question 91

If $x < y$ and $z > 0$ then

A. $xz > yz$

B. $xz \leq yz$

C. $xz \geq yz$

D. $xz < yz$

Question 92

If $x \leq y$ and $z < 0$ then

A. $\dfrac{x}{z} \geq \dfrac{y}{z}$

B. $\dfrac{x}{z} < \dfrac{y}{z}$

C. $\dfrac{x}{z} > \dfrac{y}{z}$

D. $\dfrac{x}{z} \leq \dfrac{y}{z}$

Question 93

Solve $-6x - 17 \geq 8x + 25$

A. $x \geq 3$

B. $x \leq 3$

C. $x \leq 3$

D. $x \geq -3$

Question 94

Solve $3(2m-1) \le 4m+7$

A. $m \ge 5$

B. $m \le 4$

C. $m \ge 4$

D. $m \le 5$

Question 95

Solve $5+11 > 5x-x$

A. $x < 1$

B. $x < 4$

C. $x > 1$

D. $x > 4$

Question 96

Solve $\dfrac{x}{-3} < -12$

A. $x > 4$

B. $x < 36$

C. $x < 4$

D. $x > 36$

Question 97

Solve $-6(x-2) > -2(10-x)$

A. $x < 2$

B. $x > 4$

C. $x < 4$

D. $x > 2$

Question 98

Solve $\dfrac{-2x}{5} \geq 12 - 4x$

A. $x \leq \dfrac{10}{3}$

B. $x \leq \dfrac{30}{11}$

C. $x \geq \dfrac{10}{3}$

D. $x \geq \dfrac{30}{11}$

Question 99

Solve $-3x - 5 > 22$

A. $x < -9$

B. $x >= -9$

C. $x < -9$

D. $x > 9$

Question 100

Solve $\dfrac{-12x}{3} \geq -24$

A. $x \leq 6$

B. $x \geq 6$

C. $x \geq 20$

D. $x > 72$

Question 101

Express the inequalities in interval notation $x \geq 2$

A. $(-\infty, 2)$

B. $(2, \infty)$

C. $(-\infty, 2)$

D. $[2, \infty)$

Question 102

Express the inequalities in interval notation $-1 \le x < 4$

A. $[-1, 4)$

B. $(-1, 4]$

C. $[-1, 4]$

D. $[-1, 4]$

Question 103

Which interval notation represents the set of all numbers from 2 through 7 inclusive?

A. $(2, 7)$

B. $(2, 7]$

C. $[2, 7]$

D. $[2, 7)$

−6

Question 104

Solve the following compound inequality and choose the correct answer:
$-19 < 3x - 4 < 5$

A. $-26 < x < -2$

B. $-5 < x < 3$

C. $-18 < x < 6$

D. $-9 < x < 3$

Question 105

Which compound inequality represents the following graph

A. $-2 \le x < 4$

B. $-4 \le x < 2$

C. $-4 < x \le 2$

D. $-4 \le x \le 2$

Question 106

Write an inequality to describe the region represented on the number line below

-1   0   1   2
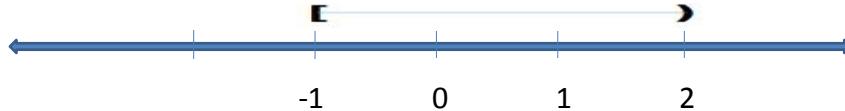
A. $-1 \le x \le 2$

B. $-1 < x < 2$

C. $-1 < x > 2$

D. $-1 \le x < 2$

Question 107

Choose the best inequality that best describes the graph below

4   -2   0   2   4
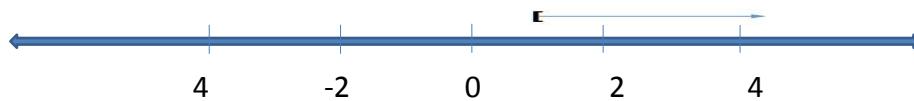
A. $25 \ge 5(1x+3)$

B. $5(2x+3) > 25$

C. $5(2x+3) < 25$

D. $25 \le 5(2x+3)$

Question 108

Solve this quadratic inequality
$9 - x^2 \leq 0$

A. $(-\infty, -3)$ ⋃ $(3, \infty)$

B. $(-3, 3)$

C. No real number solutions

Question 109

Solve this quadratic inequality
$3x^2 + 6x - 45 \leq 0$

A. $-5 \leq x \leq 3$

B. $(-5, 3)$

C. $-3 \leq x \leq 5$

D. $[-3, 5]$

Question 110

Rewrite this inequality so that 0 is on one side and a single rational expression on the other

$$\frac{3x-1}{10} < \frac{1}{2}$$

A. $\dfrac{3x-1}{10} - \dfrac{1}{2} < 0$

B. $\dfrac{3x}{8} > 0$

C. $\dfrac{3x}{8} < 0$

D. $\dfrac{3x-6}{10} < 0$

Question 111

Rewrite this inequality so that 0 is on one side and a single rational expression on the other

$$\frac{2}{x-3} < \frac{3}{x+4}$$

A. $\dfrac{-x+17}{(x-3)x+4)} < 0$

B. $\dfrac{2}{x-3} - \dfrac{3}{x+4} > 0$

C. $\dfrac{2}{x-3} - \dfrac{3}{x+4} < 0]$

D. $\dfrac{-x+17}{(x-3)(x+4)} > 0$

Question 112

Find the critical values for determining the intervals in solving this inequality

$$\frac{x-1}{x+2} > 0$$

A. $x=1,\ x=2$

B. $x=-1,\ x=2$

C. $x=1,\ x=-2$

D. $x=-1,\ x=-2$

Question 113

Find the critical values for determining the intervals in solving this inequality

$$\frac{x+7}{x-2} < 0$$

A. $x=7, x=-2$

B. $x=-7, x=-2$

C. $x=7, x=2$

D. $x=-7, x=2$

Question 114

Find the critical values for determining the intervals in solving this inequality

$$\frac{x^2 - x - 12}{1 - x} \geq 0$$

A. $x = -3$, $x = -1$ $x = 4$

B. $x = -4$, $x = 1$, $x = 3$

C. $x = -4$, $x = -3$, $x = -1$

D. $x = -3$, $x = 1$, $x = 4$

Question 115

Solve this rational inequality

$$\frac{1}{x + 10} > 0$$

A. $(-\infty, 10)$

B. $(10, -\infty)$

C. $[10, \infty]$

D. $(-10, \infty)$

Question 116

Solve this rational inequality

$$\frac{x+14}{x+5} - < 2$$

A. $(-\infty, 4) \cup (5, \infty)$

B. $(-5, 4)$

C. $(-\infty, -5) \cup (4, \infty)$

D. $(-\infty, -5) \cup (4, \infty)$

Question 117

Solve this rational inequality

$$\frac{(x+7)(x-3)}{x-1} \geq 0$$

A. $(-\infty, -7] \cup [3, \infty)$

B. $[-7, 1] \cup [3, \infty)$

C. $(-\infty, -7] \cup (1, 3]$

D. $[-7, 1) \cup [3, \infty)$

Question 118

Solve this rational inequality

$$\frac{x}{x+3} \geq 2$$

A. $(-3, 6)$

B. $(-\infty, -3) \cup [0, \infty)$

C. $(-\infty, -6] \cup (-3, \infty)$

D. $[-6, -3)$