JEDDAH KNOWLEDGE INTERNATIONAL SCHOOL

GRADE 11 ALGEBRA 2

2020-2021

Name: _____

Section: _____

1) Solve the following linear systems:

a. $5x + 2y = 5$
   $-x + 3y = -18$

b. $y = x + 4$
   $y = 2x + 5$

c. $-4x + 2y = 4$
   $3x + y = -13$

d. $3x - y = 4$
   $2x + 3y = 32$

e. $5x + 4y = 10$
   $2x + 3y = -3$

f. $x - 3y = 8$
   $-2x + y = 9$

g. Which system of linear equations has infinitely many solutions?

i. $3x - y = -1$
   $2x + 5y = 22$

ii. $x - 2y = 5$
    $-3x + 6y = 10$

iii. $7x + 3y = -6$
     $-x + 2y = 13$

iv. $-2x + 3y = 5$
    $6x - 9y = -15$

2) Solve *x, y & z* using a GDC.

a) $2x + 2y + 6z = 8$

$x + y - 2z = -6$

$x - 4y - 2z = 9$

X =

Y =

Z =

b) $x + y + z = -1$

$4x + y - 3z = -3$

$2x - 3y + 2z = -12$

X =

Y =

Z =

3) Solve the following word problem using linear systems.

The football team at your school is selling T-shirts and hats for a fundraiser. The team sells T-shirts for $10 and hats for $ 15. The team sells 95 items for $1140. How many T-shirts were sold? How many hats were sold?

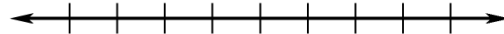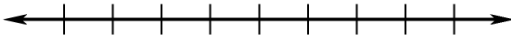| A.	Solve the absolute value equations.	
	1.) $\|x - 13\| = 5$	2.) $\|x - 4\| - 5 = 12$

B.	Solve the inequality. Then graph the solution.	
	1.) $\|x - 9\| \geq 6$	1.) $\|4x - 5\| < 15$

C.	Graph the function <mark>ACCURATELY</mark>. Fill in the table of values. (Numbers of your choice).

1.) $f(x) = \|x - 2\|$
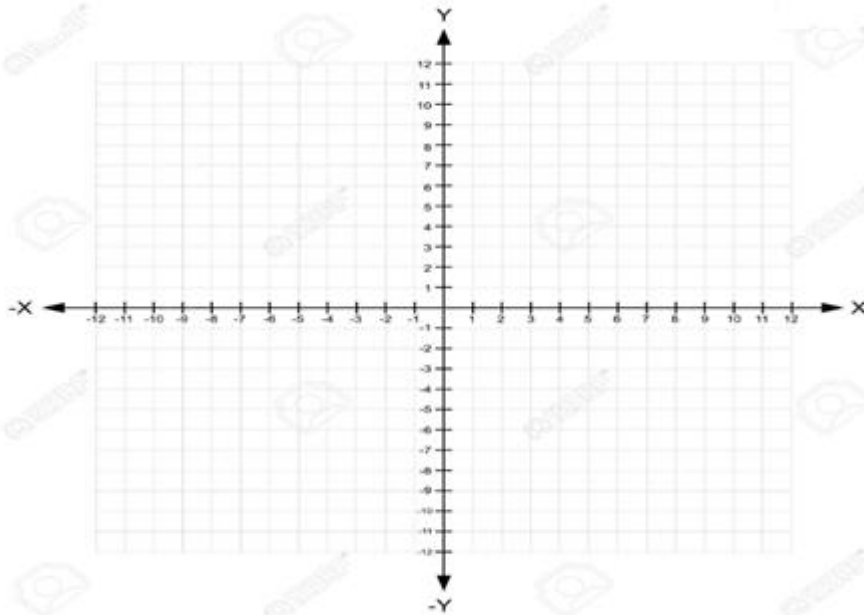
x	y

1) Choose the correct answer:

1) What are the solutions of the equation $10x^2+x-2=0$ a) -5, -2 b) -0.5, 0.4 c) -0.4, 0.5 d) 2, 5	2) Write $(3+2i) - (4-3i)$ in standard form. a) -1 + 5i b) -1-i c) 7-I d) 7+5i
3) What is the factorization of $12x^2-8x-15$? a) (6x+5)(2x-3) b)(6x-5)(2x+3) c) (4x+3)(3x-5) d) (4x-3)(3x+5)	4) What are the solutions of the equation $X^2+5=32$? a) $\pm 9\sqrt{6}$ b) $\pm 3\sqrt{3}$ c) $\pm\sqrt{32}$ d)$\pm 3\sqrt{6}$
5) What are the solutions of x2-14x+49=48? a) $-7\pm 4\sqrt{3}$ b)$-7\pm 16\sqrt{3}$ C) $7\pm 4\sqrt{3}$ d) $7\pm 16\sqrt{3}$	6) What is the Vertex of the graph of Y= x2-10x+27? a) (-10,-7) b)(5, 2) C) (-5, 2) d) (5, -7)
7) Which cubic function has a leading coefficient of 1? a) $F(x)= x^3+x^2-x+1$ b) $F(x)= x^4+x^3-x+1$ C) $F(x)= x^3-x^2+x+1$ d) $F(x)= x^3+x^4-x+1$	8) What is the quotient of (x^3-3x^2+4x-6) and (x-2)? a) X^2-x+2 b) x^2-x+3 C) $X^2-x+2 + \frac{2}{x-2}$ d) $X^2-x+2 - \frac{2}{x-2}$
9) What is the simplified form of $(3x^3y^{-4})^{-2}$? a) $6x^6y^8$ b) $9x^6y^8$ C) $\frac{1}{9}x^{-6}y^8$ d)$\frac{1}{9}x^6y^8$	10) What is the difference $(x^4-3x^2+4x+7)-(x^4-6x^3+4x)$? a) $3x^3+7$ b) $6x^3-3x^2+7$ C) $6x^3-3x^2+8x+7$ d) $3x^3+8x+7$

Function Operations

2) Perform the indicated operation.

1) $g(n) = n^2 + 4 + 2n$, $h(n) = -3n + 2$
   Find $g(n) \cdot h(n)$
	2) $f(x) = 4x - 3$, $g(x) = x^3 + 2x$
	   Find $(f - g)(4)$

3) $g(a) = 2a - 1$, $h(a) = 3a - 3$
   Find $(g \cdot h)(-4)$
	4) $g(x) = 2x - 5$, $h(x) = 4x + 5$
	   Find $g(3) - h(3)$

5) $h(x) = 3x + 3$, $g(x) = -4x + 1$
   Find $(h + g)(10)$
	6) $g(a) = 3a + 2$, $f(a) = 2a - 4$
	   Find $(g \cdot f)(3)$

3) The area of a rectangle is 126 square feet. Find the value of X

X ft

(x+5) ft