Units 7, 8, + 9 Review
Answer Key

1.) $\cdot 8 \quad \cdot 8 \quad \cdot 8$
$5x+2y=15 \rightarrow 40x+16y=120$
$4x-8y=-36 \rightarrow 8x-16y=-72$
$\cdot 2 \quad \cdot 2 \quad \cdot 2$

$\frac{48x}{48} = \frac{48}{48}$

$x=1$

$5x+2y=15$
$5(1)+2y=15$

C

$5+2y=15$
$2y=15-5$
$2y=10$
$y=5$

2.) To solve for x, eliminate y.
$6x+2y=4 \rightarrow 12x+4y=8$
$\cdot 2 \quad \cdot 2 \quad \cdot 2$
$3x+2y=5 \rightarrow -6x-4y=-10$
$\cdot -2 \quad \cdot -2 \quad \cdot -2$

$\frac{6x}{6} = \frac{-2}{6}$

$x=-\frac{1}{3}$

C

3.) x = per night y = total cost

1st vacn airfare → \$818
per night → \$107

$y=107x+818$

2nd plan airfare → \$380
per night → \$365

$y=365x+380$

A

< or ≤ shade under
< dashed
≤ solid

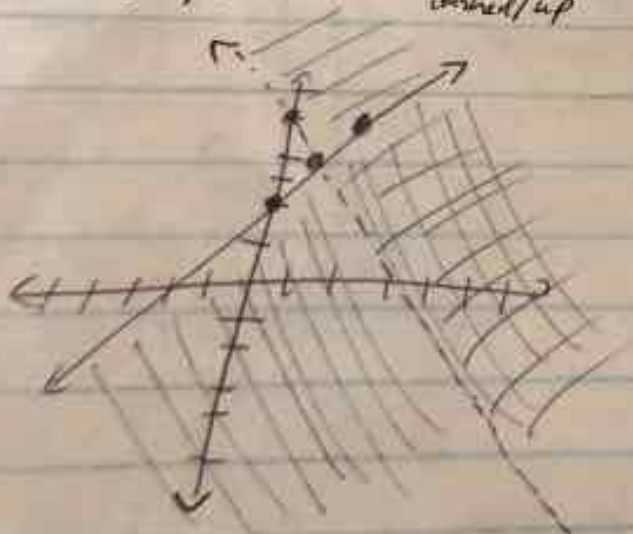
> or ≥ shade over
> dashed
≥ solid

4.) l_1: $m=-\frac{2}{3}$ $b=3$ dashed under
l_2: $m=\frac{3}{2}$ $b=0$ dashed under

A. $\begin{cases} y<-\frac{2}{3}x+3 \\ y<\frac{3}{2}x \end{cases}$

5.) $y \leq \frac{3}{2}x+2$
$m=\frac{3}{2}$ ↑ ↑ $b=2$
solid/under

$y>-x+5$
$m=\frac{-1}{1}$ ↓ → $b=5$
dashed/up



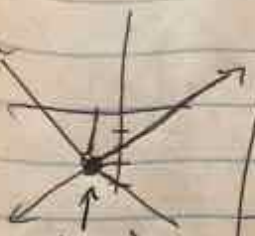
C) 4

6.) Time w/ time at least
within ≤ ≥

$g+a \geq 10$
$30g+10a \leq 180$

D.

7.)



(-1, -3)

A

8.)

1	6
2	-3
3	+12
4	-21
5	?

-9, -9, -9

-21 - 9 = -30

A

9) 29, 31, 34, 37, 40, ...

+3 +3 +3 +3

25 + 3n A.

29 - 3 = 25

Domain → x Range → y

10.) {-1, 2, 5, 9} B

(x, y) (-1, -2) (2, -8) (5, -14) (9, -22) Domain is x

11.) 31, 34, 37, 40, 43

+3 +3 +3 +3

31 - 3 = 28

28 + 3n C

Group of ordered pairs is always a relation

Different x's → function. Same x's → NOT a function

12.) All different x's → function

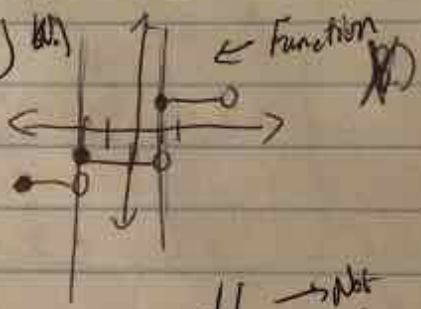
A

13.) (x, y) (2, -3) (3, -5) (5, -8)

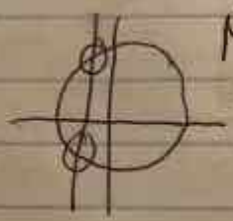
Range → -3, -5, -8

D

14.)

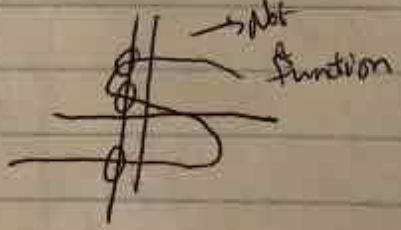


← Function



Not a function

W



→ Not function

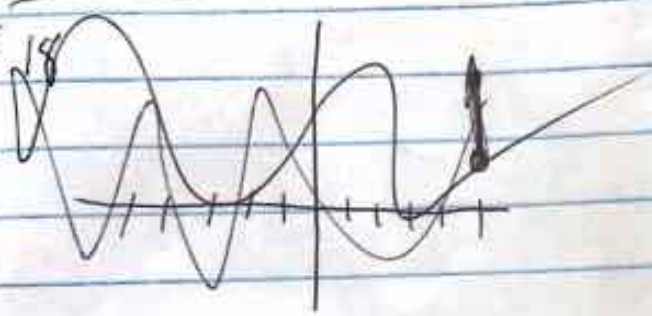
→ Not function.

15.) Different x's → Function
Always a Relation
B

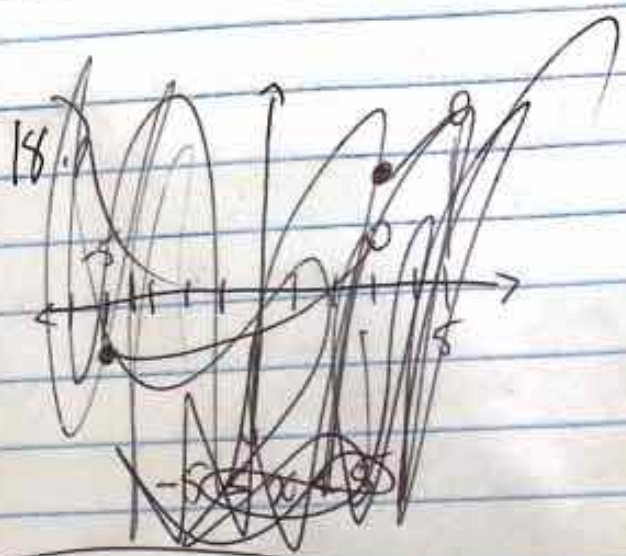
16.) A.) (0,0) (0,2) (2,0) (2,2) Not a funct.
B.) (3,2) (2,3) (3,2) (3,3) Not a function
C.) (2,-1) (2,1) (3,-1) (3,1) Not a funct.
D.) (-2,-3) (-3,-2) (2,3) (3,2)
Function
D

17.) D

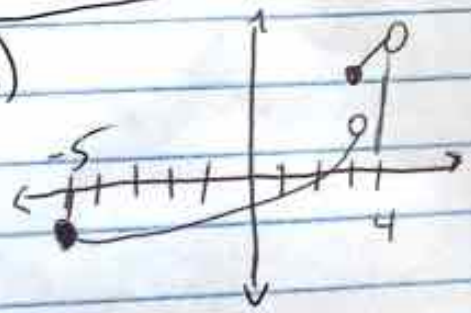
18.)



18.)



18.)



$-5 \leq x < 4$

open circle
(Not included)

C. 4

19.) 99, 90, 81, 72, 63, ...
-9 -9 -9 -9

63 - 9 = 54

A

20.) $5x+4y=32$ → $5x+4y=32$
$x+6y=22$ → $-5x-30y=-110$
·-5 ·5 ·-5

$-26y = -78$
$-26 \quad -26$

$y = 3$

$5x+4y=32$
$5x+4(3)=32$
$5x+12=32$
$5x=32-12$
$\frac{5x}{5} = \frac{20}{5}$

$x = 4$

Rose = $4
daisy = $3

A

21.) A.) $x=10$ $y>0.08(10) = \$0.80$ Not $2 and $8
$y<0.2(10) = \$2$

B.) $x=15$ $y>0.08(15) = \$1.20$
$y<0.2(15) = \$3$

(B)

22.)

	x_1	x_2		
x	9	12	16	23
y	88	115	151	214
	y_1	y_2		

$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{115-88}{12-9} = \frac{27}{3} = 9 = m$

$y = mx + b$

$y = 9x + 7$

(C.)