Algebra 1 Bellwork Thursday, January 7, 2016

6TH

Round answers to the nearest hundredth when necessary.

1. Write a function rule for each table of values.

a)

X	Y
−5	21.4
−2	24.4
4	30.4
6	32.4
9	35.4

b)

X	Y
−16	−79
−12	−61
0	−7
4	11
20	83

2. Does each table represent Direct Variation?

If yes, state the variation constant and write a Direct Variation Equation.

a)

X	Y
−9	−28.35
−6	−18.9
−4	−12.6
5	15.75
14	44.1

Direct Variation?

If Yes, $k =$

If yes, EQ:

b)

X	Y
13	31
15	28
17	25
19	22
21	19

Direct Variation?

If Yes, $k =$

If yes, EQ:

3. The table below shows a Direct Variation relationship. Find the value of X.

X	Y
−8	14.4
−3	5.4
5	−9
X	−15
11	−19.8

4. The number of tons of corn produced varies directly with the number of acres of land farmed. When 40 acres of land are farmed 490 tons of corn are produced.

a) Find the variation constant. Give your answer with units.

b) Write a Direct Variation Equation to model this situation.

c) Find the number of acres that needs to be farmed in order to produce 1,000 tons of corn.

Algebra 1 Bellwork Thursday, January 7, 2016 ANSWERS 6TH

Round answers to the nearest hundredth when necessary.

1. Write a function rule for each table of values.

a)

X	Y
−5	21.4
−2	24.4
4	30.4
6	32.4
9	35.4

$y = x + 26.4$

b)

X	Y	Before SUBTR 7
−16	−79	−72
−12	−61	−54
0	−7	0
4	11	18
20	83	90

must by 4.5

$y = 4.5x - 7$

2. Does each table represent Direct Variation?

If yes, state the variation constant and write a Direct Variation Equation.

a)

X	Y	$\frac{Y}{X}$
−9	−28.35	3.15
−6	−18.9	3.15
−4	−12.6	3.15
5	15.75	3.15
14	44.1	3.15

Direct Variation? Yes

If Yes, k = 3.15

If yes, EQ: $\frac{y}{x} = 3.15$ or $y = 3.15x$

b)

X	Y	$\frac{Y}{X}$
13	31	these are all > 1
15	28	
17	25	
19	22	
21	19	→ this is < 1

Direct Variation? NO

If Yes, k =

If yes, EQ:

3. The table below shows a Direct Variation relationship. Find the value of X.

X	Y
−8	14.4
−3	5.4
5	−9
X	−15
11	−19.8

$k = \frac{y}{x} = \frac{14.4}{-8} = -1.8$

EQ: $y = -1.8x$

$\frac{-15}{-1.8} = \frac{-1.8x}{-1.8}$

$x = 8.33$

use a proportion

OR $\frac{14.4}{-8} = \frac{-15}{x}$

4. The number of tons of corn (Y) produced varies directly with the number of acres of land (X) farmed. When 40 acres of land are farmed 490 tons of corn are produced.

a) Find the variation constant. Give your answer with units.

$k = \frac{y}{x} = \frac{490 \text{ tons}}{40 \text{ acres}} = 12.25 \text{ tons/acre}$

b) Write a Direct Variation Equation to model this situation.

$y = 12.25x$

c) Find the number of acres that needs to be farmed in order to produce 1,000 tons of corn. ⇒ y

USE A DIRECT VAR. EQ.

$\frac{1000}{12.25} = \frac{12.25x}{12.25}$

$x = 81.63$ acres

OR USE A PROPORTION

$\frac{490 \text{ TONS}}{40 \text{ ACRES}} = \frac{1000 \text{ TONS}}{x \text{ ACRES}}$