Name_____ Class_____ Date_____

Is the relationship between the values in each table a *direct variation*, an *inverse variation*, or *neither*? Write equations to model the direct and inverse variations.

1.
x	2	4	5	20
y	10	5	4	1

inverse
$y = \dfrac{20}{x}$

x	1	3	7	10
y	2	8	20	29

neither

3.
x	1	2	5	7
y	6	12	30	42

direct
$y = 6x$

4.
x	0.2	0.5	2	3
y	25	62.5	250	375

direct
$y = 125x$

5.
x	$\frac{1}{10}$	$\frac{1}{2}$	$\frac{3}{2}$	2
y	31	7	3	$\frac{5}{2}$

neither

6.
x	3	1.5	0.5	0.3
y	5	10	30	50

inverse
$y = \dfrac{15}{x}$

Suppose that *x* and *y* vary inversely. Write a function that models each inverse variation. ~~Graph the function~~ **and find *y* when *x* = 10.**

7. *x* = 7 when *y* = 2

$y = \dfrac{14}{x}$, $\dfrac{7}{5}$

8. *x* = 4 when *y* = 0.2

$y = \dfrac{4}{5}x$, 0.08

9. $x = \dfrac{1}{3}$ when $y = \dfrac{9}{10}$

$y = \dfrac{3}{10}x$

0.03

10. The students in a school club decide to raise money by selling hats with the school mascot on them. The table below shows how many hats they can expect to sell based on how much they charge per hat in dollars.

Price per Hat (*p*)	5	6	8	9
Hats Sold (*h*)	72	60	45	40

a. What is a function that models the data? $ph = 360$ or $h = \dfrac{360}{p}$

b. How many hats can the students expect to sell if they charge $7.50 per hat?

or

$p = \dfrac{360}{h}$

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