Name _____ Class _____ Date _____

11-6 Practice

Form K

Inverse Variation

Suppose y varies inversely with x. Write an equation for the inverse variation.

1. $y = 8$ when $x = 2$

2. $y = 10$ when $x = -3$

3. $y = 2.5$ when $x = -5$

4. $y = \frac{1}{2}$ when $x = \frac{3}{4}$

5. If y varies inversely with x, and $y = 9$ when $x = 13$, find the constant of variation k.

6. If y varies inversely with x, solve for y if the constant of variation $k = 6$ and $x = \frac{1}{3}$.

Graph each inverse variation.

7. $y = \frac{5}{x}$

8. $xy = -2$

9. $xy = 9$

10. Rate equals $\frac{\text{distance}}{\text{time}}$. If Sharon is bicycling at a constant rate of 18 mi/h, how many hours does it take to go 45 mi? to go 90 mi? Is this a *direct variation* or an *inverse variation*? How do you know?

11. In a given equation, M varies inversely with N. If M is 25 when $N = 10$, find M when N is 25.

Name _____ Class _____ Date _____

11-6 Practice (Continued)

From K

Inverse Variation

12. Graph the equations $xy = -4$ and $xy = 4$. How are the graphs alike? How are they different?

Do the data in each table represent a *direct variation* or an *inverse variation*? Write an equation to model the data in each table.

13.

x	*y*
–2	–6
3	9
5	15

14.

x	*y*
–2	–1
2	1
4	0.5

15.

x	*y*
–2	1
2	–1
4	–2

Tell whether each situation represents a *direct variation* or an *inverse variation*.

16. You pay $0.10 for each minute you talk long distance.

17. $100 is split up by a club to buy lunch for each person.

18. You get paid $20 each time you mow the lawn.

19. Writing Describe how you can determine if a relationship represents a direct variation without graphing it.

20. Open-Ended Write an equation modeling direct variation and an equation modeling inverse variation in which the graphs will never intersect.