Name_____ Class _____ Date_____

8-1B **Practice** (continued) *Form G*

Inverse Variation

**Each ordered pair is from an inverse variation. Find the constant of variation.**

**15.** (10, 5) 50

**17.** (−13, 22) −286

**20.** (4.8, 2.9) 13.92 **22.** (4.75, 4) 19

**Write the function that models each variation. Find $z$ when $x = 6$ and $y = 4$.**

**23.** $z$ varies jointly with $x$ and $y$. When $x = 7$ and $y = 2$, $z = 28$.

$z = 2xy$ 48

**24.** $z$ varies directly with $x$ and inversely with the cube of $y$. When $x = 8$ and $y = 2$, $z = 3$.

$z = \frac{3x}{y^3}$ 9/32

**Each pair of values is from an inverse variation. Find the missing value.**

**25.** (2, 4), (6, $y$) $\frac{4}{3}$

**27.** (1.2, 4.5), (2.7, $y$) 2

**28.** One load of gravel contains 240 ft$^3$ of gravel. The area $A$ that the gravel will cover is inversely proportional to the depth $d$ to which the gravel is spread.

**a.** Write a model for the relationship between the area and depth for one load of gravel.

**b.** A designer plans a playground with gravel 6 in. deep over the entire play area. If the play area is a rectangle 40 ft wide and 24 ft long, how many loads of gravel will be needed?

(a) $A = \frac{240}{d}$ (b) 2 loads