

3. As a salesperson, your commission is directly proportional to the dollar amount of sales you make. If your sales are \$800, your commission is \$112. How much commission would you earn if you had \$1,400 in sales?
- A. \$210
 - B. \$196
 - C. \$175
 - D. \$128
 - E. \$ 64

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C 2 *B*

- 51.** A flight instructor charges \$50 per lesson, plus an additional fee for the use of his plane. The charge for the use of the plane varies directly with the square root of the time the plane is used. If a lesson plus 16 minutes of plane usage costs \$90, what is the total amount charged for a lesson having 36 minutes of plane usage?
- A.** \$185
 - B.** \$150
 - C.** \$135
 - D.** \$110
 - E.** \$ 60

29. In Intermediate Algebra class, Ms. Schimmack makes the statement "y varies directly as the product of w^2 and x, and inversely as z^3 " and asks her students to translate it into an equation. Which of the following equations, with k as the constant of proportionality, is a correct translation of Ms. Schimmack's statement?

A. $y = \frac{kw^2x}{z^3}$

B. $y = \frac{kz^3}{w^2x}$

C. $y = \frac{w^2xz^3}{k}$

D. $y = \frac{z^3}{kw^2x}$

E. $y = kw^2xz^3$

y varies directly
to product of
 w^2 and x =

$$y = w^2x$$

y varies inversely
as z^3 means

$$y = \frac{1}{z^3}$$

Direct and Inverse Variation

Direct/Graph	INVERSE/ curve
$y = kx$ Like slope	$y = \frac{k}{x}$
K = CONSTANT OF VARIATION	



36. Which of the following equations has the pressure P varying directly as the square of the temperature T and inversely as the volume V ?

F. $P = \frac{10V}{T^2}$

G. $P = \frac{10T^2}{V}$

H. $P = \frac{10}{T^2V}$

J. $P = 10T^2V$

K. $P = 10\left(\frac{T}{V}\right)^2$

Variation

Direct Variation is like slope

$$y = kx$$

Inverse Variation is like Rational equation

$$y = \frac{k}{x}$$

In this case
y is P and $10 = k$

$$P = \frac{10T^2}{V}$$