

VARIATION

SOLVING VARIATION PROBLEMS

20000 40000

30000 60000

$$F = 2D$$

COEFFICIENT
OF
VARIATION
(K)

1. DETERMINE TYPE

DIRECT: $y = kx$

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

JOINT: $y = kxz$

COMBO: MIX OF ABOVE

3. LOOK FOR AN
EXAMPLE, SOLVE FOR
K WITH GIVEN
NUMBERS AND PLUG
K INTO FORMULA

4. FIND WHAT
THEY REALLY
WANT

2. ~~LOOK FOR~~ PLUG IN
VARIABLES THAT MAKE
SENSE

#1

① DIRECT: $y = kx$

② $P = kn$

③ $4131 = k(810)$
 $\frac{4131}{810} = k$

④ $P = \frac{4131}{810} n$

④ $p = \frac{4131}{810} (520)$

$p = 2652$

#2

① INVERSE: $y = \frac{k}{x}$

② $A = \frac{k}{D^2}$

③ $13.1 = \frac{k}{10.2^2}$

$13.1 (10.2^2) = k$

$k = 1362.924$

$A = \frac{1362.924}{D^2}$

$A = \frac{1362.924}{27.5^2}$

$A = 1.8$

#3

① COMBO

② $F = \frac{km}{d^2}$

③ $80 = \frac{k(200)}{5^2}$

$80 = \frac{200k}{25}$

$80 = 8k$

$10 = k$

$F = \frac{10m}{d^2}$

$F = \frac{10(310)}{7^2}$

$F = 63.27$