$y \propto x \quad y = kx \quad k = \frac{y}{x}$

$y \propto \frac{1}{x} \quad y = k\left(\frac{1}{x}\right) = \frac{k}{x} \quad k = xy$

$y \propto xw \quad y = kxw \quad k = \frac{y}{xw}$

$y \propto \frac{x}{w} \quad y = \frac{kx}{w} \quad k = \frac{yw}{x}$

1 a) $z \propto t^3$

b) $P \propto w^2$

c) $A \propto M$

d) $V \propto r^3$

e) $S \propto r$

2) (STEP) $D \propto d^2$

$P = kd^2$

$\$8.25 = k(10")^2$

$k = \frac{\$8.25}{(10")^2} = 0.0825 \frac{\$}{"^2}$

$P = 0.0825\, d^2$

$P = 0.0825(16")^2$

$= \$21.12$

3) $I \propto v^2$

$\therefore I = kv^2$

$4000 = k(19)^2$

$k = \frac{4000}{19^2} = 11.1$

$\therefore I = 11.1\, v^2$

$\therefore I = 11.1(75)^2$

$= 62\,000$ units

6.2×10^4

4) 3.4m

5) 146m or 243hr

6) \$16.88

7) 3.5 Ω

8) 21m

9) 27W

Sep 13-10:21 AM