1. $B \propto l$

   $B = kl$

2. $p \propto q^2$

    $p = kq^2$

   $0.5 = k(1.5)^2$

     $k = \dfrac{2}{9}$

     $p = \dfrac{2}{9}q^2$

     $p = \dfrac{2}{9}(6)^2$

     $p = 8$

3. $a \propto \dfrac{\sqrt[3]{b}}{c}$

    $a = \dfrac{k\sqrt[3]{b}}{c}$

4. $de = \dfrac{1}{2} \times 30 = 15$

   $de = 5 \times 3 = 15$

    $d \propto \dfrac{1}{e}$

    $d = \dfrac{k}{e}$

5. $p \propto \dfrac{q^2}{r^3}$

     $p = \dfrac{kq^2}{r^3}$

  $\dfrac{20}{27} = \dfrac{k(2)^2}{3^3}$

     $k = 5$

     $p = \dfrac{5q^2}{r^3}$

     $p = \dfrac{5(3)^2}{4^3}$

     $p = \dfrac{45}{64}$

6. (a) $T \propto nf$

       $T = knf$

(b) $\dfrac{1}{6} = k(3)(0.6)$

    $k = \dfrac{5}{54}$

    $T = \dfrac{5}{54}nf$

    $T = \dfrac{5}{54}(5)(2.4)$

    $T = \dfrac{10}{9}$

7. (a) $A \propto \dfrac{1}{s^3}$

        $A = \dfrac{k}{s^3}$

   $3.125 = \dfrac{k}{(0.2)^3}$

        $k = 0.025$

        $A = \dfrac{0.025}{s^3}$

(b) $A = \dfrac{0.025}{(0.125)^3}$

     $= 12.8$

(c) $0.003125 = \dfrac{0.025}{s^3}$

        $s^3 = 8$

         $s = 2$

8. (a) $r \propto \dfrac{1}{t^2}$

       $r = \dfrac{k}{t^2}$

    $0.5 = \dfrac{k}{13^2}$

      $k = 84.5$

      $r = \dfrac{84.5}{t^2}$

(b) $3.38 = \dfrac{84.5}{t^2}$

     $t^2 = 25$

      $t = \pm 5$

(c) $r = \dfrac{84.5}{10^2}$

    $= 0.845$

9. (a) $Q \propto \dfrac{w}{e^2}$

$Q = \dfrac{kw}{e^2}$

$\dfrac{7}{16} = \dfrac{k(6)}{8^2}$

$k = \dfrac{14}{3}$

$Q = \dfrac{14w}{3e^2}$

(b) $0.75 = \dfrac{14(4)}{3x^2}$

$x^2 = \dfrac{224}{9}$

$x = \pm 4.99$

$\dfrac{2}{3} = \dfrac{14y}{3(6)^2}$

$y = 5.14$

10. (a) Jejari bertambah 20%: $j \times \dfrac{120}{100}$
Radius increases by 20%

$\left(j \times \dfrac{120}{100}\right)^2 = 1.44j^2$

$V \propto j^2 t$

$\times 1.44 : 1.44V \propto 1.44j^2 t$

Isi padu silinder bertambah 44%.
The volume of the cylinder increases by 44%.

(b) $V \propto j^2 t$

$V = kj^2 t$

$269.5 = k(3.5)^2(7)$

$k = \dfrac{22}{7}$

$V = \dfrac{22}{7}j^2 t$

(c) $1089 = \dfrac{22}{7}j^2(9)$

$j^2 = \dfrac{77}{2}$

$j = 6.20$