

1) T is inversely proportional to m .

$$T = 6 \text{ when } m = 2.$$

Find relationship between T and m .

$$T = \frac{k}{m}$$

$$\begin{array}{l} T = 6 \\ m = 2 \end{array}$$

$$6 = \frac{k}{2}$$

$$6 \times 2 = k$$

$$k = 12$$

$$T = \frac{12}{m}$$

a) Find T when $m = 4$

$$T = \frac{12}{4}$$

$$\underline{T = 3}$$

b) Find m when $T = 4.8$

$$4.8 = \frac{12}{m}$$

$$4.8m = 12$$

$$m = \frac{12}{4.8}$$

$$\underline{m = 2.5}$$

4) M varies inversely with t^2

$$M = 9 \text{ when } t = 2$$

Find relationship between M and t

$$M = \frac{k}{t^2}$$

$$M = 9$$

$$t = 2$$

$$9 = \frac{k}{2^2}$$

$$9 = \frac{k}{4}$$

$$9 \times 4 = k$$

$$36 = k$$

$$M = \frac{36}{t^2}$$

a) when $t = 3$

$$M = \frac{36}{3^2}$$

$$M = \frac{36}{9}$$

$$\underline{M = 4}$$

b) when $M = 1.44$

$$1.44 = \frac{36}{t^2}$$

$$1.44 t^2 = 36$$

$$t^2 = \frac{36}{1.44}$$

$$t^2 = 25$$

$$t = \sqrt{25}$$

$$\underline{t = 5}$$