7 $d = 200m$

$r = \frac{d}{2} = 100m$

$C = 2\pi r$

$= 2 \times \frac{22}{7} \times 100$

$= \frac{4400}{7}$

In 40s $= \frac{4400}{7 \times 40} = \frac{4400}{28}$

In 1s $= \frac{440}{28}$

In 2m 20s $= 140s$

In 140s $= \frac{440}{28} \times 140 = 2200m$

Displacement $= 200m$

So, D converted in 2m 20s is 2200 ft is 200m.

Date
Page 23

2) a) D = 300m
t = 150s
Average s = Total d / Total t

b) 1.90m/s, 0.95m/s

Total d = 300
Total time taken = 150s

Average speed = 300/150 = 2 m/s

3) While driving to school:
Average s = 80km/h
= f d / total t,

80 = d / t,

t, = d / 80

while returning from school:
total d = d
total t = t2

Average s = Total d / Total t

40 = d / t2

t2 = d / 40

$t_1 + t_2$

Average $s = \frac{2d}{t_1 + t_2}$

4) $u = 0$
$a = 3\,m/s^2$
$t = 8\,s$

$s = ut + \frac{1}{2}at^2$
$s = 0 + \frac{1}{2} \times 3 \times (8)^2$
$s = 96m$

5) Case A:
$u = 14.4\,m/s$
$t = 5\,s$
Final speed of the car becomes 0 after 5s of application of brakes

Case B:

$u = 0.83\,m/s$
$\frac{8}{2} = 10s$
Final speed of the car becomes 0 after 10s of the brakes.

Date
Page 285

D in case A:

$$\Delta S_1 = \frac{1}{2} \times OP \times OR = \frac{1}{2} \times 14.4 \times 5$$
$$= 36m$$

D in case B = $\frac{\Delta S}{2} = \frac{1}{2} \times OS \times OQ$.
$= 4.15m$

A & B

Hence, the car travelling with a speed of 52 km/h travels farther after brakes were applied.

6) a) object B b) No c) 5.744 km d) 5.143 km

7) distance, $s = 80m$
$a = 10m/s^2$
$u = 0$
v = final velocity
$v^2 = u^2 + 2as$
$v = 0 + 2(10)(80)$
$= 20 m/s$

$v = u + at$
$20 = 0 + 10(t)$
$t = 2s$

8) a) The shaded area b) which is first $\frac{1}{2} \times 4 \times 6 = 12m$
Enough

9) a) Possible
When a ball is thrown what maximum kit has ov, although it will have constant a due to g = 9.8 m/s²

b) Possible
When a car is moving in a circular path, it is a F⊥ to its direction.