Practice Assessment Geometry + Measure

1. \[ T = \frac{D}{S} \]
   \[ = \frac{52.46}{920} \]
   \[ = 0.057 \mathrm{hrs} \]
   \[ = 5.40 \mathrm{hrs} \]

   = 5 hrs and 0.7 \times 60 \mathrm{mins}
   = 5 \mathrm{hrs} \text{ and } 42 \mathrm{mins}
   + \text{ stop over (2 hrs + 45 mins)}

   = 8 \mathrm{hrs} \text{ and } 27 \mathrm{mins}

(b) 21:53 our time (-5 hours to get to their time)

\[ \Rightarrow 16:53 \]

(c) No as this will be 0500 in New York

(d) Phone her at 2100 NY time which will be 1600 for far time. Anytime which is out with teaching hours + not into sleep time.
2. Scale 1cm = 20km

3. 6.7cm = 6.7 × 20
   = 134 km back to base

4. 20% of 10 = 14 km/hr
   - Max speed = 10 + 14 = 84 km/hr
   - Min speed = 40 - 14 = 56 km/hr

   Whole journey = 160 + 40 + 134
   = 334 km

5. Time = \( \frac{334}{84} \)
   = 3.98
   = 3 hours + 0.98 × 60 minutes
   = 3 hours + 58.8 minutes

   Run time = \( \frac{334}{56} \)
   = 5.96
3 \( V = \frac{4}{3} \pi r^3 \)  
\[ = \frac{4}{3} \times 0.3926 \]
\[ = 0.52 \text{ cm}^3 \]
\[ = 0.52 \text{ ml to 2dp} \]

(b) \( 2000 \text{ m}l = 0.52 \)
\( \Rightarrow 3846.15 \)
\( \Rightarrow 3846 \text{ puw} \)

(c) \( V_{\text{cylinder}} \geq 0.52 \text{ ml} \)
\( d = 1.4 \)
\( r = 0.7 \)
\[ \pi r^2 h = 0.52 \]
\[ \pi \times (0.7^2) \times h = 0.52 \]
\[ 1.539 \times h = 0.52 \]
\[ h = 0.52 \div 1.539 \]
\[ h = 0.34 \text{ cm} \]

4. \( 300 \text{ cm} \)
\( 200 \text{ m} \rightarrow 400 \text{ cm} \rightarrow 30 \rightarrow 20 \)

Stacked vertically \( 200 \div 40 = 5 \text{ boxes} \)
wide 300cm ÷ 20 = **15** boxes wide

5 boxes

5

10

13

13 rows of **15**, 5 piles high

= **975** boxes

Or (option 2)

200cm

300cm

400cm

40cm

30cm

20cm

400 ÷ 20 = **20** boxes horizontally

> 20 rows

200 ÷ 40 = **5** boxes high

300 ÷ 30 = **10** boxes wide

> 20 rows of 10, 5 piles high

≈ **1000** boxes
05. Preheat oven.
read the instructions.
tip contents of packet into a bowl.
Add milk + eggs.
Beat the mixture.
place in a cooking dish.
cook the cake.
ic the cake when cool.

(b) You can preheat oven + read the instructions at the same time.

26. (a)

Gradient \( DE = \frac{\text{Vert.}}{\text{horiz.}} \)

\[ \text{Grad DE} = \frac{3.5}{4.5} \]

Grad FE = \frac{?}{3.5}

Don't know \( \text{vertical(?)}} \) in either so will need to work this out.

\[ 4.5^2 = 3.5^2 + ?^2 \]

\[ 0.25 = 12.25 + ?^2 \]

\[ ?^2 = 8 \]

\[ ? = \sqrt{8} \]

\[ ? = 2.83 \text{m} \]

We can do this using Pythagoras.
Grad DE = \frac{2.83}{3.5} \quad \text{Gradient } FE = \frac{2.83}{8.5}

= 0.81 \quad = 0.87

\text{2 Sides} = \frac{3.5}{3} \quad \text{Area} = 6 \times 3.5

= 31 \text{ m}^2 \quad \times 2 = (2 \text{ of these})

= 62 \text{ m}^2

\text{Back Wall}

\begin{align*}
3.5 \text{ m} & \uparrow \quad \text{Area} = 3.5 \times 10 \\
\text{m} & \downarrow \quad = 35 \text{ m}^2
\end{align*}

\text{Front Total Area (35 m}^2 \text{ same as back)}

\text{Need to cut out door + window:}

\text{Door Area} = 1 \times 2.5 \quad \text{Window Area} = 2.5

\Rightarrow \quad = 2.5 \text{ m}^2

\text{Total area front}

\Rightarrow \quad \Rightarrow = 35 - 2.5 - 2.5

\Rightarrow \quad = 30 \text{ m}^2

\text{Total area of walls}

\Rightarrow \quad = 124 \text{ m}^2
£3.50 \times 0.3926 = £1.34