



# Estimates

## Answers

1


June 2018 Foundation Non-Calc Paper 1

- 22 A cycle race across America is 3069.25 miles in length.

Juan knows his average speed for his previous races is 15.12 miles per hour.  
For the next race across America he will cycle for 8 hours per day.

- (a) Estimate how many days Juan will take to complete the race.

$$\begin{array}{l} \text{distance} = 3000 \text{ miles} \\ \text{speed} = 20 \text{ mph} \\ \text{time} = 10 \text{ hours} \end{array} \left. \vphantom{\begin{array}{l} \text{distance} \\ \text{speed} \\ \text{time} \end{array}} \right\} \text{all to 1sf}$$

$$\text{time} = \frac{d}{s} = \frac{3000}{20} = \frac{300}{2} \quad \textcircled{1}$$

$$= 150 \text{ hours}$$

$$10 \text{ hours each day} \quad 150 \div 10 = \underline{\underline{15 \text{ days.}}} \quad \textcircled{1}$$

Juan trains for the race.  
The average speed he can cycle at increases.  
It is now 16.27 miles per hour.

- (b) How does this affect your answer to part (a)?

It does not affect my answer as 16.27  
would have been rounded to 20 as well  
 $\textcircled{1}$

(Total for Question 22 is 4 marks)

## June 2018 Foundation Calc Paper 3

10 Bronwin works in a restaurant.

The table gives her rates of pay.

Day	Rate of pay
Monday to Friday	£8.40 per hour
Weekend	£11.20 per hour

Bronwin worked for a total of 20 hours last week.

She worked 8 of these 20 hours at the weekend.

Show that Bronwin was paid less than £200 last week.

$$20 - 8 = 12$$

$$12 \times 8.40 = \text{£}100.80 \quad (1)$$

$$8 \times 11.20 = \text{£}89.60$$

$$\underline{\text{£}190.40} \quad (1)$$

£190.40 is less than £200

(1)

(Total for Question 10 is 3 marks)