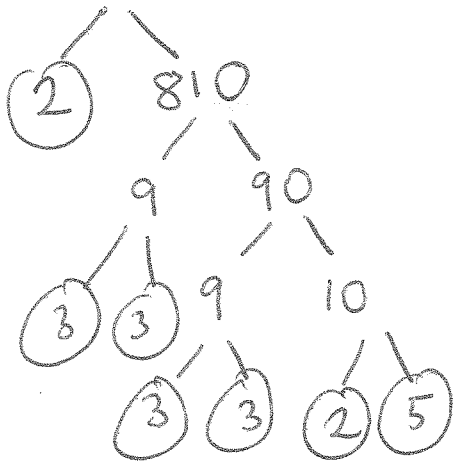


M3 = 6 days to go!

22 (a) Write 1620 as a product of its prime factors.



$$1620 = 2 \times 2 \times 3 \times 3 \times 3 \times 3 \times 5$$

$$2^2 \times 3^4 \times 5$$

using index notation

Answer $2^2 \times 3^4 \times 5$ [2]

(b) Hence write down

(i) three square factors of 1620

powers must be a multiple of 2
so 2^2 , 3^2 or $2^2 \times 3^2$

Answer 4, 9, 36 [2]

(ii) one cube factor of 1620

powers must be a multiple of 3

Answer 27 [1]

$$3^3$$

Northern Gas

Standing charge is 9.71 pence per day

Gas costs 4.27 pence per unit

Colin's gas meter was read on 1st September. The reading was

1	4	3	7	9
---	---	---	---	---

The meter was read again on 1st December. The reading was

2	2	1	9	9
---	---	---	---	---

(a) Complete the box to show the number of units used.

0	7	8	2	0
---	---	---	---	---

[1]

(b) Calculate the total gas bill that Colin will have to pay for the 91 days from 1st September, after VAT is charged at 5% on the total.

$$91 \text{ days} \times 9.71 \text{ p} = 883.61 \text{ pence}$$

$$7820 \times 4.27 = 33391.40 \text{ pence}$$

Answer £ 359.89 [4]

$$\text{Total} = 34275.01 \text{ pence}$$

$$34275 \text{ pence}$$

$$\text{Total} = \pounds 342.75$$

$$5\% \text{ is } 0.05 \times 342.75 \text{ is } 17.14$$

$$342.75 + 17.14$$