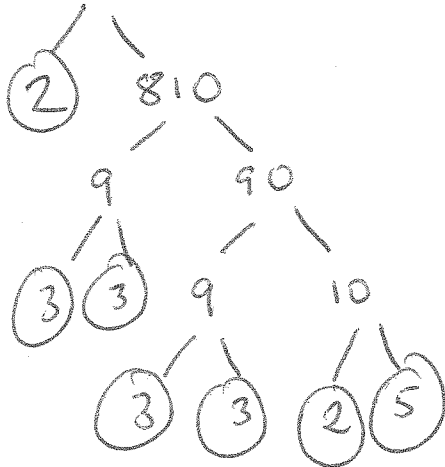


M4 = 7 days to go!

12 (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 or 3^2 or $2^2 \times 3^2$ Answer 4, 9, 36 [2]

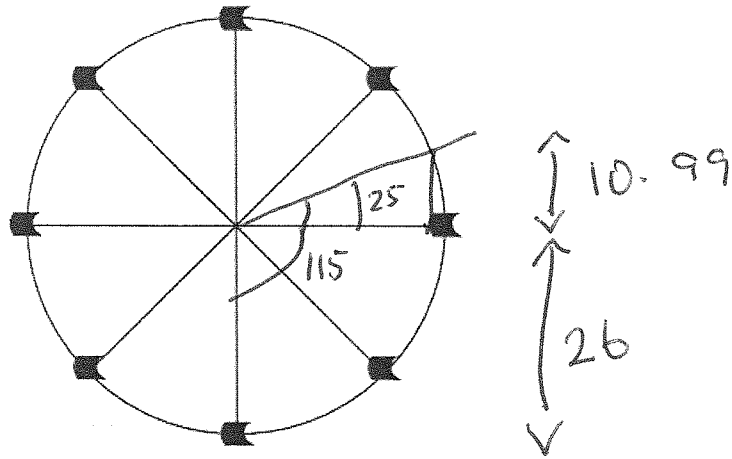
(ii) one cube factor of 1620

powers must be a multiple of 3

$$3^3$$

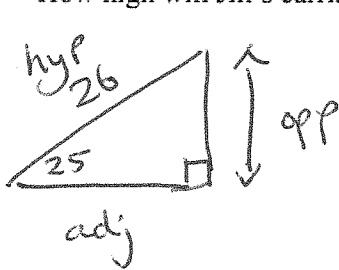
Answer 27 [1]

24 The diagram shows a big wheel at a fairground. The radius of the wheel is 26 m.



When the wheel starts to turn, Jill is in the bottom carriage on the ground.

How high will Jill's carriage be above the ground when the wheel has turned 115° ?



$\triangle SOH$ $\triangle CAH$ $\triangle TOA$

$$? = 26 \sin(25) = 10.99$$

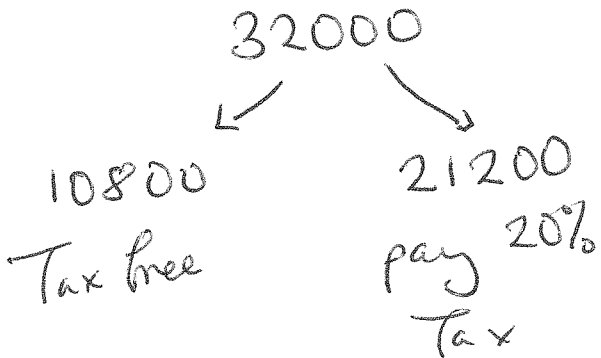
37 m

4 Heather has an annual salary of £32 000

The first £10 800 is tax free.

She pays income tax at a rate of 20%.

How much of her salary is left after paying her tax?



Answer £ 27760 [3]

20% of 21200
 0.20×21200
 4240 tax to pay

$$32000 - 4240$$