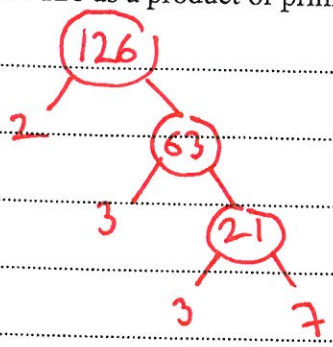
Products of Prime Numbers PP Q's

(1) Express 126 as a product of prime numbers using index notation.



$126 = 2 \times 3 \times 3 \times 7$

$= 2^1 \times 3^2 \times 7^1$

[3]

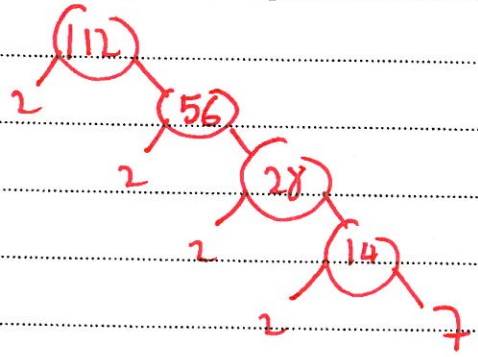
(2) (a) Explain how you know that 24 is **not** a square number.

$24 = 2^3 \times 3^1$

not a square number because the powers are not all even.

[1]

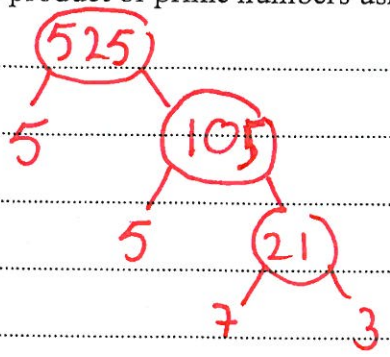
(b) Express 112 as a product of prime numbers in index form.



$112 = 2^4 \times 7^1$

[3]

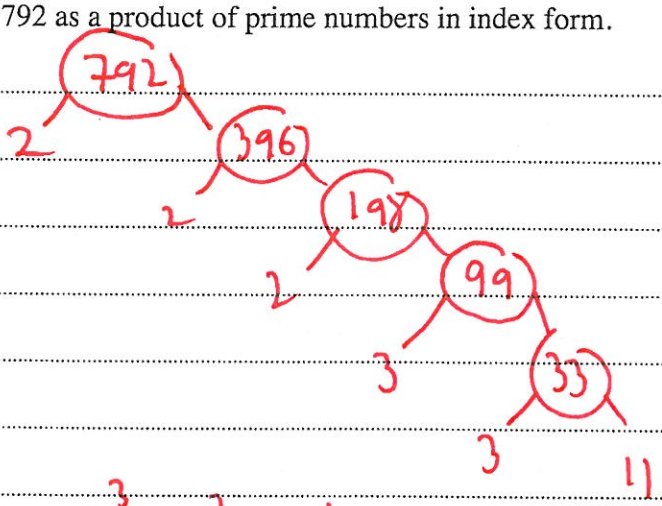
(3) Express 525 as a product of prime numbers using index notation.



$525 = 3^1 \times 5^2 \times 7^1$

[3]

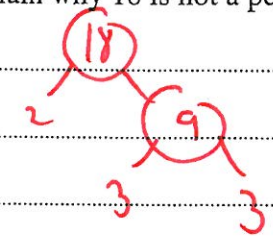
(4) (a) Express 792 as a product of prime numbers in index form.



$792 = 2^3 \times 3^2 \times 11^1$

[3]

(b) Explain why 18 is not a perfect square.



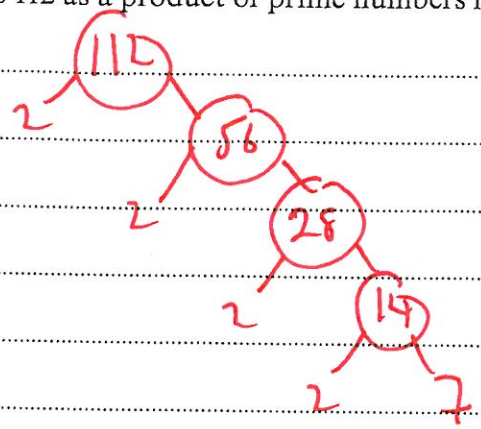
$18 = 2^1 \times 3^2$

Nft a perfect square because all the powers aren't even.

[1]

5

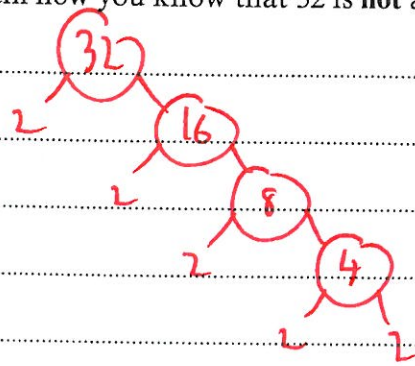
(a) Express 112 as a product of prime numbers in index form.



$112 = 2^4 \times 7^1$

[3]

(b) Explain how you know that 32 is **not** a square number.



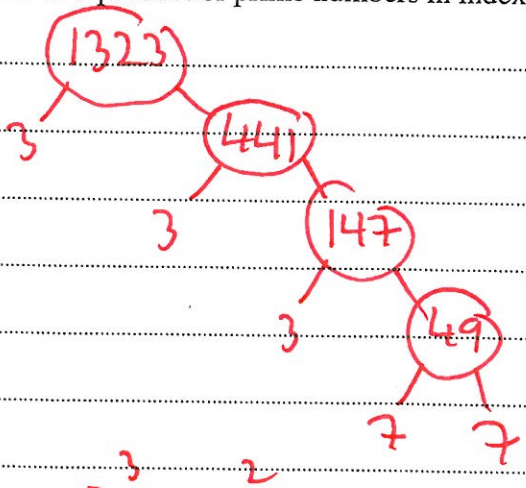
$32 = 2^5$

Not square as the power is odd.

[1]

6

(a) Express 1323 as a product of prime numbers in index form.



$1323 = 3^3 \times 7^2$

[3]

(b) Write down the least whole number by which 1323 should be multiplied to make the result a perfect square.

3

[1]