



Write $\sqrt{32}$ in the form 2^x

$$8^{y+1} = \sqrt{32}$$

Find the value of y

Class 10D make some cakes using milk chocolate, dark chocolate or white chocolate. Some of the cakes contain nuts and the rest do not.

The ratio of the number of milk chocolate cakes to dark chocolate cakes is 10:3

The ratio of the number of white chocolate cakes to milk chocolate cakes is 1:6

Of the milk chocolate cakes, the ratio of the number of cakes containing nuts to not containing nuts is 1:8

Of the dark chocolate cakes, the ratio of the number of cakes containing nuts to not containing nuts is 3:2

Of the white chocolate cakes, the ratio of the number of cakes containing nuts to not containing nuts is 2:5

What percentage of the cakes contain nuts?

The first five terms of a linear square are

2, 7, 12, 17, 22

A new sequence is generated by squaring each term of the linear sequence and then adding 1.

Prove that all terms in the new sequence are divisible by 5.