



Maths-it Podcast H-02

Higher GCSE Revision

Integers, positive and negative numbers

Topics

Calculating with positive and negative numbers – Proof using integers, odds and evens

Questions

1. $y = x^2 - 4x$

Find the value of y when $x = -8$

$$y = \dots\dots\dots$$

(Total 2 marks)

2. $P = 3x^2 - 9$

Find the value of P when $x = -2$

$$P = \dots\dots\dots$$

(Total 2 marks)

3. Prove algebraically that the sum of the squares of any two consecutive odd integers is never a multiple of 8.

(Total 4 marks)

4. Prove that,

$$(n + 1)^2 - (n - 1)^2$$

is a multiple of 4, for all positive integer values of n .

(Total 3 marks)



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5. John says “For all prime numbers, n , the value of $n^2 + 3$ is always an even number”.
Give an example to show that John is **not** correct.

(Total 2 marks)

7. $v = u - 9.8t$

Work out the value of v when

$u = -1.5$ and $t = 1.2$

$v = \dots\dots\dots$

(Total 2 marks)

8. Calculate, $\frac{7 \times (5 - 9) - 4}{(5 - 1) - (2 - 6)}$

$\dots\dots\dots$

(Total 2 marks)