

Shown is the first 10 seconds of the journey of a car

$A: \frac{1}{2} \times 2 \times 4.75 = 4.75$
 $B: \frac{1}{2} (4.75 + 6.75) \times 2 = 11.5$
 $C: \frac{1}{2} (6.75 + 8) \times 2 = 14.75$
 $D: \frac{1}{2} (8 + 9.5) \times 2 = 17.5$
 $E: \frac{1}{2} (9.5 + 10.5) \times 2 = 20$

Work out an estimate for the distance the car travels in these 10 seconds

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 $C: \frac{1}{2} (6.75 + 8) \times 2 = 14.75$
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68.5m

Is your answer an underestimate or an overestimate? Underestimate
 Explain your answer.

Each triangle/trapezium is under the curve.

Prove the sum of four consecutive odd numbers is always a multiple of 8.

$$(2k+1) + (2k+3) + (2k+5) + (2k+7)$$

$$= 8k + 16$$

$$8(k+2)$$

\therefore multiple of 8.

Find an expression, in terms of n, for the nth term of the quadratic sequence

5 16 31 50

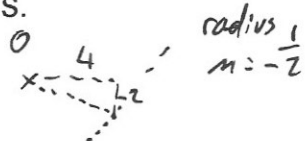
11 15 19

4 4

$a = 2$
 $b = 5$
 $c = -2$

$$2n^2 + 5n - 2$$

Find where the tangent to the circle $x^2 + y^2 = 20$ at the point $(4, -2)$ meets the y-axis.



gradient of tangent = ~~1/2~~ 2

$$y = \frac{2}{1}x + c$$

$$y = \frac{1}{2}x - 10$$

$$-2 = 8 + c$$

$$c = -10$$

(0, -10)