Select the best answer.

The position function for a running horse is described by $\boldsymbol{r}(t) = 2t^2 + 4t + 2$. What is the velocity function derived from the horse's position?

ATTEMPT 1

https://t.me/Grade10GenAdv

- ◉ $\boldsymbol{v}(t) = 4t + 4$ ✓
- ○ $\boldsymbol{v}(t) = 4t^2 + 4t$
- ○ $\boldsymbol{v}(t) = 4t^2 + 4t + 2$
- ○ $\boldsymbol{v}(t) = 2t + 4$

Select your answer from the drop-down menus.

A runner's position function is described by $\boldsymbol{r}(t) = 4t^2 + 3t + 7$. The velocity function is calculated to

be 1. $\boldsymbol{v}(t) = 8t + 3$ ✓ .

1. $\boldsymbol{v}(t) = 8t + 3$ https://t.me/Grade10GenAdv ✓

Select your answer from the drop-down menu.

Majed is driving along the E11 road at 120 km/h. The 1. instantaneous ✓ velocity function $\boldsymbol{v}(t)$ of Majed's car can be found by differentiating the position function $\boldsymbol{x}(t) = -8.4t^2 + 3.1t$ to 2. $\boldsymbol{v}(t) = -16.8t + 3.1$ ✓.

1. instantaneous ✓

https://t.me/Grade10GenAdv

2. $\boldsymbol{v}(t) = -16.8t + 3.1$ ✓

Select the best answer.

Which of these equations is an example of a quadratic equation describing a position function $y(t)$?

- $y(t) = 5t^3 - 5t$
- $y(t) = 5t^2 - 5t^3$

https://t.me/Grade10GenAdv

- $y(t) = 5t^2 - 5t$ ✓
- $y(t) = 5t - 5$ ✗

Drag and drop each correct answer into the appropriate box.

Dima hits a tennis ball over the net. At its

1. maximum ✓ vertical displacement, the vertical velocity component of the ball is 2. 0 m / s ✓ .



https://t.me/Grade10GenAdv

9.81 m/s | minimum | continuous | −9.81 m/s

1. maximum ✓

2. 0 m / s ✓

Enter the correct number in the blank provided.

The position function for this racing car is described by

$\boldsymbol{r}(t) = 4t^2 + 6t + 3$ where the position is in meters

and the time in seconds. At $t = 3$ s, the car has an

instantaneous velocity of $\boldsymbol{v}(3\ \text{s}) =$



1. 30 ✓ m/s.

1. 30

https://t.me/Grade10GenAdv

✓