

9. Given the function  $q(m) = 2m^2 + 2m$ ,  
the average rate of change from  $m = -1$  to  $m = 4$  is:

9

-8

8

7

### Solution

Using the average rate of change formula:

$$\text{The average rate of change} = \frac{q(4) - q(-1)}{4 - (-1)}$$

$$= \frac{(2(4)^2 + 2(4)) - (2(-1)^2 + 2(-1))}{5}$$

$$= \frac{40 - 0}{5}$$

$$= 8$$