

Acceleration

1. Write the formula of **acceleration**.

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2. The velocity of the car increased from 4 m/s to 32 m/s in 7 seconds. Calculate its **acceleration**.



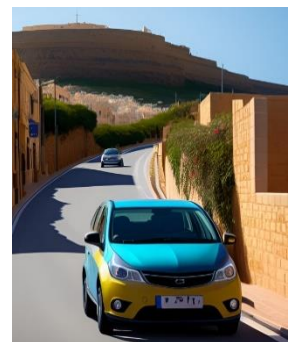
3. The car accelerated from a speed of 10 m/s for 10 seconds at an acceleration of 3 m/s². Calculate the **final velocity**.



4. A runner accelerated from rest and reached a speed of 9 m/s in first 3 seconds. Calculate the **acceleration**.



5. A car moving at a velocity of 36 m/s brakes and stop in 12 s. Calculate its **deceleration**.



Acceleration

6. A rocket launched into space burns its fuel for the first 6 minutes and then turns off its engines. Afterward, it continues moving through space at a speed of 15,000 m/s. What is **the rocket's acceleration** during the first 6 minutes?



7. The Moon is approximately 384400 km from Earth. **How long** will it take the rocket to reach the Moon?



8. Alpha Centauri is the nearest star, located approximately 4.1×10^{13} km away. Could this rocket transport a person to Alpha Centauri before he/she die of old age?