

## Acceleration

1. Write down the **acceleration equation**.

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2. Rearrange the acceleration equation for **time**.

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3. Rearrange the acceleration equation for **change in velocity**.

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4. Find the missing value.

Initial Velocity (u)	Final Velocity (v)	Time (t)	Acceleration (a)
2 m/s	8 m/s		2 m/s <sup>2</sup>
	12 m/s	5 s	2 m/s <sup>2</sup>
0 m/s		20 s	3 m/s <sup>2</sup>

5. A train comes to **rest** from a speed of **70 m/s** by decelerating at **0.5m/s<sup>2</sup>**.  
**Find the time taken** by the train to decelerate.

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6. Maria drops a book off her balcony by accident. Assuming air resistance is negligible, **how many seconds does** it take the book to reach a speed of **20 m/s**?

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## Acceleration

7. A rabbit is moving with a velocity of 5.0 m/s. The rabbit speeds up to 15 m/s with a constant acceleration of 2.0 m/s<sup>2</sup>. **How many seconds** does it take the rabbit to speed up?

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8. A train travelling at 100 m/s slows down and stops at a platform in 25 seconds. What was its **acceleration**?

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9. A car travels from 0 to 6 m/s in 0.5 seconds. What is its **acceleration** in m/s<sup>2</sup>?

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10. A helicopter decelerates at 5 m/s<sup>2</sup> for 12 seconds. If it was initially travelling at a velocity of 200 m/s, what is its **final velocity**?

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11. A plane is flying at 250 m/s. It accelerates at 5 m/s<sup>2</sup> for 10 seconds. Find the **change in velocity and its final velocity**.

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