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# Average Speed YouTube Lecture Handouts for Competitive Exams

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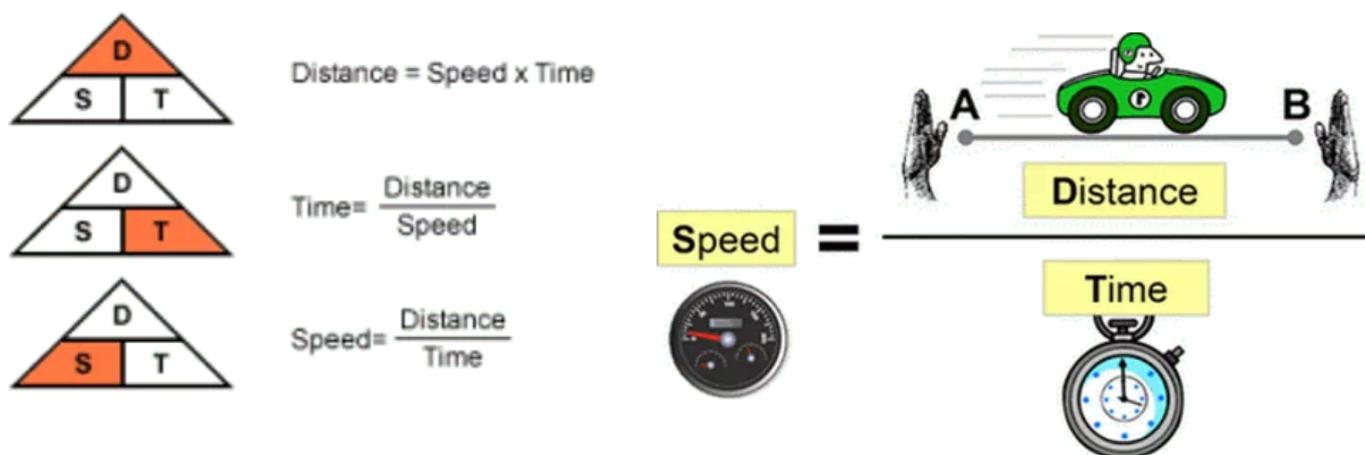


Image of Distance, Time, Speed

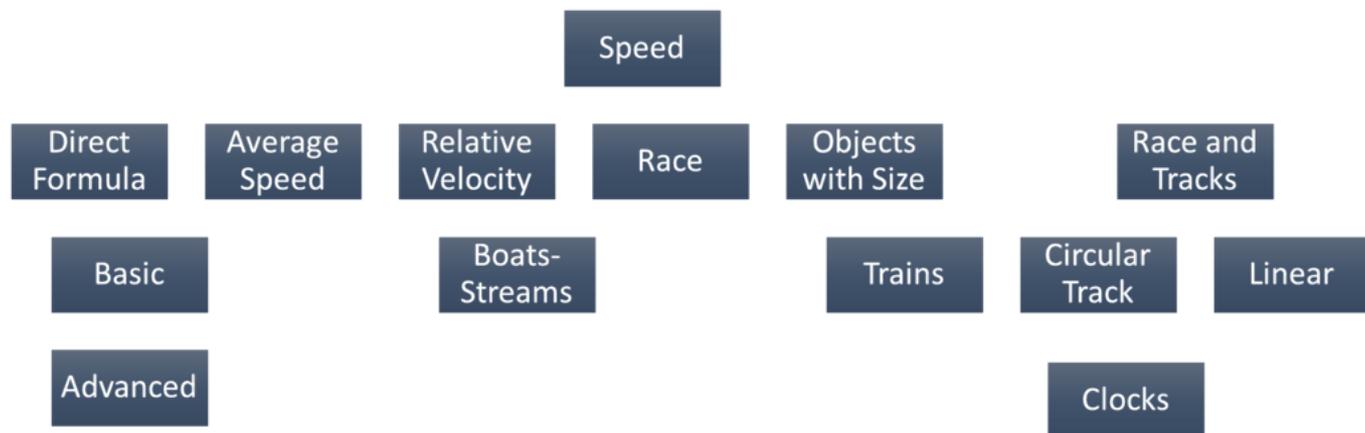


Image of Features of Speed

## Types of Questions

- Distances Given
  - Absolute
  - Proportion (Fraction)
  - Equal (Harmonic Mean)

- Times Given
  - Absolute
  - Proportion (Fraction)
  - Equal (Average or Arithmetic Mean)

Harry takes his family out for a picnic. They travel 80 km to coast and arrived after 1 hr. Their picnic lasts for 2 hr. Afterward they travel home in 1 hr. What was their average speed?

40 km/hr

Jim travels the first 3 hours of his journey at 60 mph speed and the remaining 6 hours at 24 mph speed. What is the average speed of Jim's travel in mph?

36 km/hr

Jim travels  $\frac{1}{3}$ <sup>rd</sup> of the time at 60 mph speed and remaining at 24 mph speed. What is the average speed of Jim's travel in mph?

Jim travels the first 180 miles of his journey at 60 mph speed and the remaining 144 miles at 24 mph speed. What is the average speed of Jim's travel in mph?

Jim travels the first  $\frac{5}{9}$ <sup>th</sup> of his journey at 60 mph speed and the remaining at 24 mph speed. What is the average speed of Jim's travel in mph?

Tim drove at an average speed of 30 miles per hour for the first 30 miles of a trip, at an average speed of 60 miles per hour for the next 30 miles and at an average speed of 90 miles/hr for the remaining 30 miles of the trip. If he made no stops during the trip, Tim's average speed in miles/hr for the entire trip was?

$\frac{540}{11}$

Priya drove at an average speed of 30 miles per hour for some time and then at an average speed of 60 miles/hr for the rest of the journey. If she made no stops during the trip and her average speed for the entire journey was 50 miles per hour, for what fraction of the total time did she drive at 30 miles/hour?

$\frac{1}{3}$

The speed of a bus increases by 4 km/hr every 2 hours. If the distance travelled in first 2 hours was 70 km. What is the average speed in 6 hours?

74 km/hr

There is a road beside a river. 2 friends started from a place A to B and then back. One of them on a cycle at a speed of 12 km/hr, the other on a boat at a speed of 10 km/hr. If the river flows at the speed of 4 km/hr, which of the two friends will return to A first?

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12 km/hr, 8.4 km/hr

If a car must achieve an average speed 250 km/hr to qualify in a racing event on a 1600 m track and covers an average speed 200 km/hr on the first half, what minimum average speed must it have in second half to qualify?

1000/3 km/hr

-Mayank