

DISTANCE, TIME, SPEED PRACTICE PROBLEMS

YOU MUST SHOW YOUR WORK.

You can use a calculator but you must show all of the steps involved in doing the problem.

SPEED $Speed = \frac{Distance}{Time}$

1. If a car travels 400m in 20 seconds how fast is it going?
2. If you move 50 meters in 10 seconds, what is your speed?
3. You arrive in my class 45 seconds after leaving math which is 90 meters away. How fast did you travel?
4. A plane travels 395,000 meters in 9000 seconds. What was its speed?
5. It takes Serina 0.25 hours to drive to school. Her route is 16 km long. What is Serina's average speed on her drive to school?

TIME $Time = \frac{Distance}{Speed}$

6. How much time will it take for a bug to travel 5 meters across the floor if it is traveling at 1 m/s?
7. You need to get to class, 200 meters away, and you can only walk in the hallways at about 1.5 m/s. (if you run any faster, you'll be caught for running). How much time will it take to get to your class?
8. In a competition, an athlete threw a flying disk 139 meters through the air. While in flight, the disk traveled at an average speed of 13.0 m/s. How long did the disk remain in the air?

DISTANCE $Distance = Speed \times Time$

9. How far can you get away from your little brother with the squirt gun filled with paint if you can travel at 3 m/s and you have 15s before he sees you?

10. How far can your little brother get if he can travel at 2.5 m/s and in 5 seconds you will discover that his squirt gun has run out of paint?

11. If you shout into the Grand Canyon, your voice travels at the speed of sound (340 m/s) to the bottom of the canyon and back, and you hear an echo. How deep is the Grand Canyon at a spot where you can hear your echo 5.2 seconds after you shout?

CHALLENGE PROBLEM

Bill and Amy want to ride their bikes from their neighborhood to school which is 14.4 kilometers away. It takes Amy 40 minutes to arrive at school. Bill arrives 20 minutes after Amy. How much faster (**in meters/second**) is Amy's average speed for the entire trip?

Be sure to show all necessary metric conversions!!



Exercises

- Calculate the distance that you would travel if you drove for:
 - 3 hours at 20 mph
 - 8 hours at 60 mph
 - 0.5 hour at 76 mph
 - 1.5 hours at 42 mph
 - 6.25 hours at 40 mph
 - 30 minutes at 33 mph
 - 45 minutes at 60 mph
 - 90 minutes at 45 mph
- How long does it take to travel:
 - 120 miles at 40 mph
 - 300 miles at 50 mph
 - 240 miles at 60 mph
 - 385 miles at 70 mph
 - 60 miles at 40 mph
 - 360 miles at 30 mph
 - 390 miles at 60 mph
 - 253 miles at 46 mph
- A car travels 300 miles in 5 hours. Calculate the average speed of the car in:
 - mph,

How long does it take for the car to travel 82 miles?

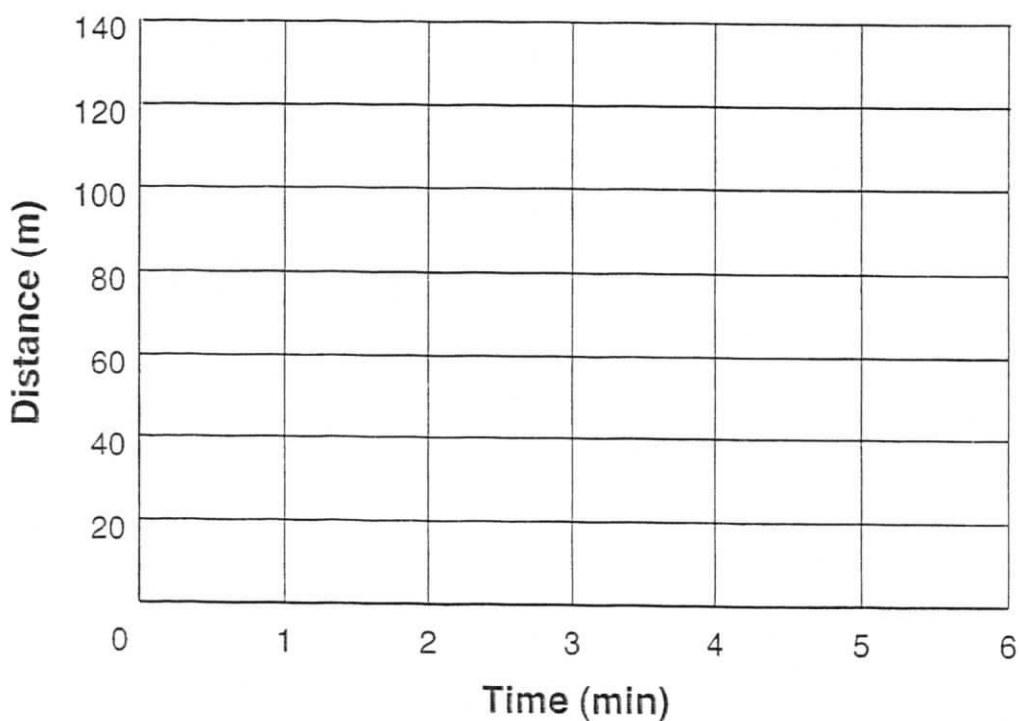
- Janet and Bill leave their home at the same time. Janet has 60 miles to travel and drives at 40 mph. Bill has 80 miles to travel and also drives at 40 mph.
 - How long does Janet's journey take?
 - How much longer does Bill spend driving than Janet?
- An athlete can run long distances at 4 metres per second. How far can she run in:
 - 50 seconds,
 - 3 minutes, (180 seconds)
 - 1 hour, (3600 seconds)
 - 1.5 hours? (5400 seconds)
- Andrew rows at an average speed of 2 metres per second.
 - How long does it take him to row:
 - 70 m,
 - 800 m,
 - 1500 m

CALCULATING AVERAGE SPEED

Name _____

Graph the following data on the grid below and answer the questions at the bottom of the page.

<u>Time (min)</u>	<u>Distance (m)</u>
0	0
1	50
2	75
3	90
4	110
5	125



$$\text{Average Speed} = \frac{\text{Total Distance}}{\text{Total Time}}$$

1. What is the car's speed after two minutes? _____
2. After three minutes? _____
3. After five minutes? _____
4. What is the average speed between two and four minutes? _____
5. What is the average speed between four and five minutes? _____