

# 8<sup>th</sup> grade science

Name \_\_\_\_\_ Date \_\_\_\_\_ Block \_\_\_\_\_

## Speed Machines

Calculate speed & or acceleration. Show your work! (Showing your work includes the following three steps: **write the formula, plug in the numbers, do the math.**)

1. Nascar driver, Jeff Gordon, has a car that is one of the fastest on the circuit. If it travels 600 miles in 4 hours, what is his cruising speed?

| GIVEN        | WORK         |
|--------------|--------------|
| <br><br><br> | <br><br><br> |
| ANSWER       |              |

2. The fastest car on Earth, a German-made *Thrust SSC*, would win every Nascar race in America. If it takes 0.5 hours (30 minutes) to travel 380 miles, what is its speed?

| GIVEN        | WORK         |
|--------------|--------------|
| <br><br><br> | <br><br><br> |
| ANSWER       |              |

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3. The fastest train on Earth, the *TGV* from France, can travel at faster speeds than trains in the United States. During a speed test, the train traveled 800 miles in 2.5 hours. What is its speed?

| GIVEN  | WORK |
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| ANSWER |      |

4. *Spirit of Australia*, a hydroplane boat, made speed records by traveling 239 miles in 0.75 hours (45 minutes). What is its record-breaking speed?

| GIVEN  | WORK |
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| ANSWER |      |

5. The fastest plane ever made, the *Lockhead SR71*, was able to travel 2200 miles per hour. Based on this speed, how far could it travel in 2 hours?

| GIVEN  | WORK |
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| ANSWER |      |

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6. Calculate the acceleration of a car that goes from 30 m/sec to a speed of 65 m/sec in 5 seconds.

| GIVEN  | WORK |
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| ANSWER |      |

7. Kennedy is running down the street at 10 meters per second. She sees a double-tall latte on the road ahead of her and starts sprinting. After 5 seconds have passed, Kennedy is running at 15 meters per second. Assuming she does not change direction, what was Kennedy's acceleration?

| GIVEN  | WORK |
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| ANSWER |      |

8. Casey's older brother Jady is falling off a cliff. At the beginning of his fall, his velocity is 0 meters per second. After 10 seconds, his velocity is 98 meters per second. What was Jady's acceleration?

| GIVEN  | WORK |
|--------|------|
|        |      |
| ANSWER |      |

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9. Toni is riding her bike across a parking lot. She is heading east at 20 meters per second. She runs over Mr. Graham, who is lying down in the parking lot. Five seconds after running over Mr. Graham, Toni is heading east at 15 meters per second. What was Toni's acceleration?

| GIVEN  | WORK |
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| ANSWER |      |

10. Ethan throws a pumpkin onto Mr. Graham's damaged car. At first, Ethan is holding the pumpkin motionless. 2 seconds later, the pumpkin leaves Ethan's hands traveling at 300 meters per second. Assuming it does not change direction, what was the acceleration of the pumpkin?

| GIVEN  | WORK |
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| ANSWER |      |

11. Calculate the speed for a car that went a distance of 125 miles in 2 hours time.

| GIVEN  | WORK |
|--------|------|
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| ANSWER |      |