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Getting the Job Done—Speed

1. **Identify the distance formula.**
2. Find the distance travelled.
3. Determine the time it took to travel.
4. Find the missing values.
5. Comparing rates.
6. Calculate the missing rate.

\+ with lots of tips, answer keys, and detailed answer explanations for all of the problems.

Identify the distance formula.

Select formulas that correctly express the relationship between distance, rate, and time.

- [ ] A $d = r \cdot t$
- [ ] B $r = d \cdot t$
- [ ] C $r = \frac{d}{t}$
- [ ] D $t = \frac{r}{d}$
- [ ] E $\frac{d}{r} = t$
- [ ] F $t \cdot r = d$
- [ ] G $r = d \cdot t$
- [ ] H $\frac{t}{r} = d$

Hints for solving these problems

1 of 6

Identify the distance formula.

Hint #1

Multiplication is commutative. That means:

$a \cdot b = b \cdot a$

Hint #2

Equality is commutative. that means:

If $a = b$ then $b = a$.

Hint #3

Below is an example of the process for dividing both sides of an equation to solve for a variable. In this example, we'll solve for t:

Equation	Explanation
$d = r \cdot t$	The equation for distance.
$\frac{d}{r} = \frac{r \cdot t}{r}$	Dividing both sides by r.
$\frac{d}{r} = t$	Canceling r on the right.
$t = \frac{d}{r}$	Commutative property of equality.

Answers and detailed answer explanations for these problems

1 of 6

Identify the distance formula.

Answer key: A, C, E, F

- $d = r \cdot t$ **True** This is the most common way of writing the equation relating distance, rate, and time.
- $r = d \cdot t$ **False** The correct method for solving for r is shown below.

Equation	Explanation
$d = r \cdot t$	The equation for distance.
$\frac{d}{t} = \frac{r \cdot t}{t}$	Dividing both sides by t.
$\frac{d}{t} = r$	Canceling t on the right.
$r = \frac{d}{t}$	Commutative property of equality.

- $r = \frac{d}{t}$ **True** See above.
- $t = \frac{r}{d}$ **False** The correct method for solving for t is shown below:

Equation	Explanation
$d = r \cdot t$	The equation for distance.
$\frac{d}{r} = \frac{r \cdot t}{r}$	Dividing both sides by r.
$\frac{d}{r} = t$	Canceling r on the right.
$t = \frac{d}{r}$	Commutative property of equality.

- $\frac{d}{r} = t$ **True** See above. Look at the second to last line.
- $t \cdot r = d$ **True** See below.

Equation	Explanation
$d = r \cdot t$	The equation for distance.
$r \cdot t = d$	Commutative property of equality.
$t \cdot r = d$	Commutative property of multiplication.

- $r = d \cdot t$ **False** See above for the correct method for solving for r.
- $\frac{t}{r} = d$ **False** $d = r \cdot t$.