$\qquad$ Trainer $\qquad$ Date $\qquad$

## DEFENSIVE DRIVING BASICS

STOPPING DISTANCE FORMULA

## REACTION DISTANCE + BRAKING DISTANCE = STOPPING DISTANCE

All drivers take a fraction of a second to react before putting on the brakes. This time translates into reaction distance-the distance your vehicle will travel in the time it takes you to move your foot from the accelerator to the brake pedal. To figure your reaction distance in feet, take the first digit of your speed and add it to the total speed.

| SPEED | + | First Digit | $=$ | Reaction Distance |
| :--- | :---: | :---: | :---: | :---: |
| 20 mph | 2 |  |  |  |
|  | + |  | 22 feet |  |

In other words, at 20 miles per hour, your vehicle will travel 22 feet in the time it takes you to move your foot from the accelerator to the brake pedal. The faster you're going, the further your vehicle will travel before you can hit the brakes.

| SPEED | + | First Digit | $=$ | Reaction Distance |
| :--- | :--- | :---: | :--- | :---: |
| 55 mph | 5 |  | $=$ | 60 feet |
| 65 mph | + | 6 |  | 71 feet |

Braking distance is also determined by speed. Here are braking distances for some speeds:

| At... | Braking distance is... |
| :--- | :--- |
| 20 mph | 18 to 22 feet |
| 55 mph | 192 to 224 feet |
| 65 mph | 267 to 316 feet |

Now we can calculate the stopping distance for these speeds:

| At... | Reaction Distance | + | Braking Distance | $=$ | Stopping Distance |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 20 mph | 22 feet | + | 18 to 22 feet | $=$ | 40 to 44 feet |
| 55 mph | 60 feet | + | 192 to 224 feet | $=$ | 252 to 284 feet |
| 65 mph | 71 feet | + | 267 to 316 feet | $=$ | 338 to 387 feet |

It's easy to see that stopping distance is very much greater at high speeds than at low speeds. The faster you are going, the greater the distance you must allow between you and the car in front of you for safety.

