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## Applied Problems Additional Practice

Directions: Be sure to show all work, communicate your thought process, and justify your reasoning. Remember to check that your answers are complete, correct, and reasonable. If you complete work on scrap paper, please attach it. This part of the test is worth 8 points.

1. Simple interest $(I)$ is given by the formula $I=p r t$, where $p$ is the principal, $r$ is the rate, and $t$ is the time the money is invested for in years. Rearrange the equation to highlight the variable $r$.
2. Solve for $y: \quad 9 y+4 x=-2$
3. David is two years older than Connie, who is ten years older than Floria. The sum of their ages is 55 . How old is each person?
4. Trains $A$ and $B$ travel in directly opposite directions at constant speeds for 2 hours. Train $A$ travels 15 mph less than train $B$, and the trains end up being 362 miles apart. Determine the speed of each train.
5. One fruit and flower field charges $\$ 5.00$ to enter plus an additional 5 cents for every ounce of fruit you pick. Another field charges $\$ 3.50$ to enter, but an additional 10 cents for every ounce of fruit you pick. For how many ounces will the cost of visiting and picking fruit at each farm be the same?
6. Train $X$ leaves a station at 2:30 PM and travels consistently at 68 mph . Train Y leaves the same station at 4:00 PM and travels a path parallel to train $X$ at a consistent speed of 73 mph . How long will it take train $Y$ to pass train $X$ ?
