

Mathematics Assessment Program

College and Career Readiness

Mathematics

Short Tasks: Creating Equations 1

1. If $V = \frac{12R}{(r+R)}$ make R the subject of the equation.

- 2a. Jane, Maria, and Ben each have a collection of marbles. Jane has 15 more marbles than Ben, and Maria has 2 times as many marbles as Ben. All together they have 95 marbles. Find how many marbles Maria has.

- 2b. Dave sold 40 tickets for a concert. He sold x tickets at \$2 each and y tickets at \$3 each. He collected \$88.
Write down two equations connecting x and y .
Solve these two equations to find how many of each kind of ticket he sold.

- 2c. A rectangle has length $(x + 5)$ cm and width $(x - 2)$ cm. Its area is 60 cm^2 .
Write a quadratic equation, and solve it to find the length and width of this rectangle.