

To earn full credit for this worksheet, you must follow the MTH 60 Documentation guidelines and do your work in pencil. No late work accepted.

Keep in mind that your homework is part of your "grade application," just as a cover letter and resume are part of a job application. Impressions count. Neatness and completeness make a lasting impression on the instructor (so does turning your homework in on time).

1. Solve $p = 15 + \frac{5d}{11}$ for d .

$$p = 15 + \frac{5d}{11}$$

$$11p = 11\left(15 + \frac{5d}{11}\right)$$

$$11p = 165 + 5d$$

$$11p - 165 = 165 + 5d - 165$$

$$11p - 165 = 5d$$

$$\frac{11p - 165}{5} = \frac{5d}{5}$$

$$\frac{11}{5}p - 33 = d$$

2. The product of 3 more than a number and 11 is 165. What is the number? Remember to define your variable, show all of your work and answer in a complete sentence.

Let n represent the number.

$$11(n + 3) = 165$$

$$11n + 33 = 165$$

$$11n + 33 - 33 = 165 - 33$$

$$11n = 132$$

$$\frac{11n}{11} = \frac{132}{11}$$

$$n = 12$$

$$\begin{array}{l} \text{Check} \quad 11(12 + 3) = 11(15) \\ \quad \quad \quad = 165 \end{array}$$

The number is 12.

3. A rectangular sandbox is $1\frac{3}{4}$ feet longer than it is wide. If the perimeter is $37\frac{1}{2}$ ft, what are the dimensions of the sandbox? Remember to define your variable (include units), show all of your work and answer in a complete sentence.

Let w represent the width of the sandbox (in feet).

Then $w + 1.75$ represents the length of the sandbox (in feet).

We know that the formula for the perimeter of a rectangle is $P = 2l + 2w$.

$$37.5 = 2w + 2(w + 1.75)$$

$$37.5 = 2w + 2w + 3.5$$

$$37.5 = 4w + 3.5$$

$$37.5 - 3.5 = 4w + 3.5 - 3.5$$

$$34 = 4w$$

$$\frac{34}{4} = \frac{4w}{4}$$

$$8\frac{1}{2} = w$$

$$\text{So } w + 1.75 = 10.25$$

Check:

$$2l + 2w = 2(8.5) + 2(10.25)$$

$$= 17 + 20.5$$

$$= 37.5$$

The dimensions of the sandbox are $8\frac{1}{2}$ ft by $10\frac{1}{4}$ ft.