

General Topics

How do I solve word problems?

To solve word problems you need to answer at least three questions:

- 1.) What numbers are needed to answer the question?
- 2.) What mathematical operation(s) are needed to arrive at an answer?
- 3.) Does your answer make sense?

2.) What mathematical operation(s) are needed to arrive at an answer?

In other words, you need to decide if you will add, subtract, multiply, or divide.

Division

There are two major kinds of problems that require division:

- 1.) You will divide when you have a situation where you are given a whole quantity and are asked to determine how many portions, pieces, parts, of a given size can be obtained from it.

Examples

<p>a) It takes John about 0.3 hr to interview a candidate for a new job. In an 8 hr work day, <i>how many</i> people could be interviewed by John?</p> <p><i>The whole quantity is 8 hrs. We are to see how many 0.3 hr time blocks (each representing one person) are in that 8 hr day.</i></p> <p>Setup: $8 \div 0.3 = 26.666\dots = 26$ complete interviews</p>	<p>b) If you have a 55 gallon supply of motor oil, <i>how many</i> cars could you service if each car uses 5 quarts (1.25 gallons) of oil?</p> <p><i>The whole quantity is 55 gallons. We will determine how many 1.25 gallon changes can be done with that supply.</i></p> <p>Setup: $55 \div 1.25 = 44$ oil changes</p>
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- 2.) When you have a whole quantity and are required to break it up into a certain number of equally-sized pieces, the division will tell you how large each piece will be.

<p>a) If 3.25 lbs of gold are to be <i>divided evenly</i> among 4 pirates, how much gold will each pirate get?</p> <p><i>The 3.25 lbs of gold is the whole quantity. If you divide that amount by 4, you will know how much gold each pirate gets.</i></p> <p>Setup: $3.25 \div 4 = 0.8125$ lbs of gold for each pirate.</p>	<p>b) If a 7 acre parcel of land is <i>split-up</i> into 20 equal sized lots, how large will be each lot?</p> <p><i>The 7 acre parcel of land is the whole quantity. Divide this amount by 20, in order to determine the size of a single lot.</i></p> <p>Setup: $7 \div 20 = 0.35$ acres per lot</p>
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Other words that may indicate that division is needed:

Divide evenly, split, cut, equal sized pieces, break up.