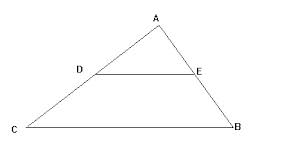
**Objective:**

**Do Now:**

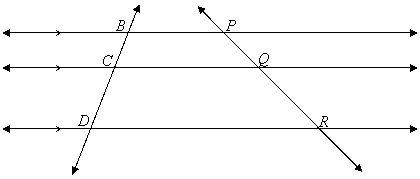
**a.**  b**.** 

**c.  d. **

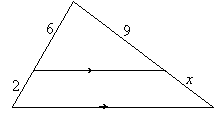
**Proportions in Triangles:**  
[](http://www.google.com/imgres?sa=X&biw=1270&bih=574&tbm=isch&tbnid=IK0Rf1XU3-K65M%3A&imgrefurl=http%3A%2F%2Fwww.mathsrevision.net%2Fgcse-maths-revision%2Ftrigonometry%2Fsimilar-triangles&docid=hGn7gq_OW8CK5M&imgurl=http%3A%2F%2Frevisionworld.co.uk%2Fsites%2Fdefault%2Ffiles%2Fimce%2Fsimilar%252520triangles.gif&w=437&h=240&ei=KrPmUqvJHNSskAeW5oCIBA&zoom=1&iact=rc&dur=243&page=2&start=9&ndsp=13&ved=0CIUBEK0DMA4)If DE||CD, the following proportions are true:

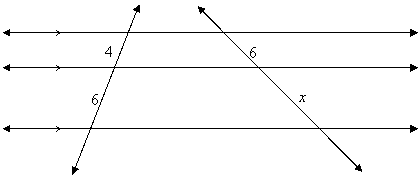
Use the diagram above to complete the following problems:

1. If AD = 6 inches, DC = 4 inches, AE = 9 inches, how long is EB?
2. If AB is 30 cm, DE = 24 cm, AE = 18 cm, how long is CB?

Parallel lines allow us to solve more proportions.

In the diagram at the right:

1. If BC = 5 in, CD = 12 in, and PQ = 7 in, how long is QR?
2.  Find x:

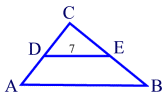


1. Find x:

**Definition:**

|  |  |  |
| --- | --- | --- |
| http://www.regentsprep.org/Regents/math/geometry/GP10/MIDLINE2.gif |  |  |
|  |
| The **mid-segment** of a triangle is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |

Properties:

Example: Given *DE* is the mid-segment.  Find *AB*.