

Mini-Vignettes (Middle School) For Tool 12.8

<p>D. Anna is trying to use what she knows about area of triangles to figure out the area of a parallelogram. She starts by laying down different triangles. She notices that she is not forming a parallelogram, so she decides to try to cut an existing parallelogram into triangles to see if that might lead to a connection.</p>	<p>H. In solving the missing value proportion problem $\frac{3.5}{14} = \frac{\quad}{32}$, Ethan looks for a factor between 14 and 32. Then, he looks for a factor between 3.5 and 14 and notices that 3.5 doubled is 7 and doubled again is 14. He then realizes the answer is 8 (one-fourth of 32).</p>
<p>A. Noah is building triangles. He says, "The longest side cannot be more than the other two sides." Nick says, "It can't be the same as the other two sides either." Amy says, "Yes, they can be the same, just not greater." Maria says, "No, if the long side was the same, then the two other sides would stretch out flat. It has to be smaller, even if only by a tiny amount."</p>	<p>E. Rachel is working on a task dealing with constant speed. She is given a few ordered pairs to plot and then asked to find additional points on the line. She realizes that an equation would help her find additional points and writes the formula: $d = 55t$.</p>
<p>B. Pairs of students are charged with showing that the angles of a triangle equal 180°. Andrew and Alexa choose to use protractors, draw triangles, and measure the angles. Leah and Lexi decide to cut out three identical triangles and line up a different angle from each triangle to make a straight line. And several partners are at a computer, using GeoGebra to work on the problem.</p>	<p>F. Marta and Alicia have both measured the same rectangular solid, but they notice their answers are different. They compare their measures of each side. Alicia says, "You rounded to the nearest whole number, and I rounded to the tenths place. That is going to change the answers."</p>
<p>C. In simplifying expressions, Amanda notices that in the expression $6(n + 1) - 4(n + 1)$, the expressions inside the parentheses match, so she can subtract the groups and get $2(n + 1)$ rather than apply the distributive property as a first step.</p>	<p>G. The class is working on integer operations on the number line. They solve problems such as these:</p> $-3 + 14 = \underline{\quad\quad\quad} \qquad -15 + 10 = \underline{\quad\quad\quad}$ $21 + (-30) = \underline{\quad\quad\quad}$ <p>Kelly notices that whenever the signs are different she moves back to zero and then jumps the rest of the distance (e.g., for $-3 + 14$, she moves +3 to zero and then up to 11). She notices that this answer looks like the difference of 14 and 3 and uses this idea to solve other problems.</p>

