### Lesson 9 Practice Problems

1. Use a protractor to try to draw each triangle. Which of these three triangles is impossible to draw?
	1. A triangle where one angle measures $20^{∘}$ and another angle measures $45^{∘}$
	2. A triangle where one angle measures $120^{∘}$ and another angle measures $50^{∘}$
	3. A triangle where one angle measures $90^{∘}$ and another angle measures $100^{∘}$
2. A triangle has an angle measuring $90^{∘}$, an angle measuring $20^{∘}$, and a side that is 6 units long. The 6-unit side is in between the $90^{∘}$ and $20^{∘}$ angles.
	1. Sketch this triangle and label your sketch with the given measures.
	2. How many unique triangles can you draw like this?
	3. Find a value for $x$ that makes $-x$ less than $2x$.
	4. Find a value for $x$ that makes $-x$ greater than $2x$.
* (From Unit 5, Lesson 13.)
1. One of the particles in atoms is called an electron. It has a charge of -1. Another particle in atoms is a proton. It has charge of +1.
* The overall charge of an atom is the sum of the charges of the electrons and the protons. Here is a list of common elements.

|  | * charge fromelectrons
 | * charge fromprotons
 | * overallcharge
 |
| --- | --- | --- | --- |
| * carbon
 | * -6
 | * +6
 | * 0
 |
| * aluminum
 | * -10
 | * +13
 |  |
| * phosphide
 | * -18
 | * +15
 |  |
| * iodide
 | * -54
 | * +53
 |  |
| * tin
 | * -50
 | * +50
 |  |

* Find the overall charge for the rest of the atoms on the list.
* (From Unit 5, Lesson 3.)
1. A factory produces 3 bottles of sparkling water for every 7 bottles of plain water. If those are the only two products they produce, what percentage of their production is sparkling water? What percentage is plain?
* (From Unit 4, Lesson 3.)



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