Chapter 1 Review

L 1.1 – Patterns (p. 6)
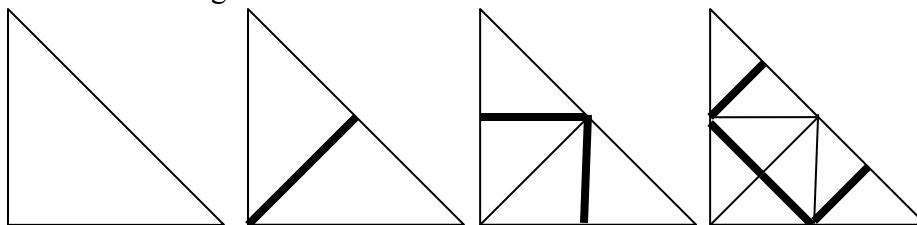
#19-21   Use a table:

n	Pattern steps	Sum	How n relates to sum
1	2	2	**1** * 2
2	2 + 4	6	**2** * 3
3	2 + 4 + 6	12	**3** * 4
4	2 + 4 + 6 + 8	20	**4** * 5
5	2 + 4 + 6 + 8 + 10	30	**5 * 6**

How relate?

n

How express this in terms of n? It is n plus one!
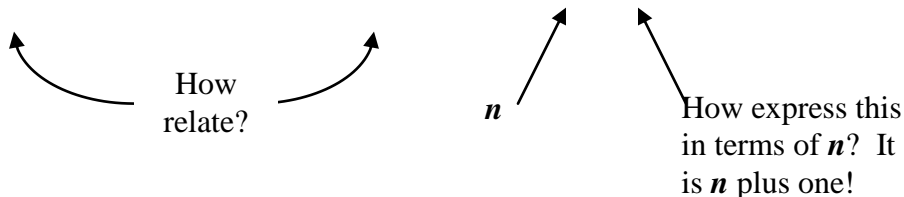
Sum of the first n even integers = $n(n + 1)$

#44   Find what's being added each time

Step 1: start

Step 2: line apex to base, creates 2 triangles

Step 3: line apex to base for each triangle, creates 4 triangles

Step 4: line apex to base for each triangle, creates 8 triangles

#28   Work backwards

Counter-example would be an improper fraction.
Pick one.
Make it the product of two fractions, one a proper fraction.
Convert product to quotient, using reciprocal of improper fraction if there is on in the product.
Done.

Example: $\dfrac{4}{3} = \dfrac{2}{3} * \dfrac{2}{1} = \dfrac{2}{3} \div \dfrac{1}{2}$

Chapter 1 Review

#52   What is the difference?

Find the difference between numbers in each step.
It isn't the same diff every time so look for some other relationship.
Compare the difference line with the original line.
Notice they are the same numbers.
Current number added to prior number gives next number.

$$1, \quad 1, \quad 2, \quad 3, \quad 5, \quad 8, \quad 13, \quad 21, \quad \underline{\quad}, \quad \underline{\quad}$$

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  \   \   \   \   \   \   \
   0   1   1   2   3   5   8   ?      ?
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Next = curr + prior so 13 + 21 = <u>34</u> and 21 + 34 = <u>55</u>

L 1.2 – Points, Lines and Planes (p. 15)

Key here is to know and understand your definitions and postulates

#63   (definition of coplanar – answer is always)

#21   (Postulate 1-3: QUX and QUV)

#23   (Postulate 1-3: UTX and WXT)

L 1.3 – Segments, Rays and Parallel Lines and Planes (p. 19)

Key here is to know and understand your definitions

#45   (definition of parallel planes: answer is always…can't have skew planes)

#58   (Postulate 1-3: key is the phrase "in common"; answer is no)

#15   (X-out bad choices; answer is $\overline{AD}, \overline{AB}, \overline{AC}$)

#17   (definition of parallel planes; answer is $ABC \parallel DEF$)

#19   (definition of skew lines; answer is $\overrightarrow{CF}, \overrightarrow{DE}$)

#23   (definition of parallel lines; answer is $\overleftrightarrow{BG}, \overleftrightarrow{DH}, \overleftrightarrow{CL}$)

#5, p23 (the plane crosses thru the center of the figure)

#8, p23 (X-out bad choices)

L 1.4 – Measuring Segments and Angles (p. 29)

One key is to know and use proper symbols and notation.

Point, line, segment, ray, angle
- Using appropriate symbols

- How to name

Congruent segments
- Symbol
- How to mark segments showing they are congruent (jet figure & description page 29)

Congruent angles
- Symbol
- How to mark angles showing they are congruent

Types of angles
- Names of types
- Measures of types
- Symbol for right angle

L1.5 – Constructions

Make sure you are able to perform the basic constructions we outlined in the lesson.

L 1.6 – Coordinate Plane (p. 47)

Key is correct plotting (know your quadrants!), and the formulas (distance and midpoint) Make sure you know how to apply the formulas!

Also, remember how the compass points (north, south, east & west) fit on the x, y coordinate plane? North and south are on the y-axis (north up). East and west are on the x-axis (west to the left).

#48   (dist formula, answer is 165 units; T→V→U, TV=71.6, TU=72.1)

#7   (dist formula, $\sqrt{(12-5)^2 + (-12-12)^2} = \sqrt{7^2 + (-24)^2} = \sqrt{625} = 25$

#29   Use the midpoint formula – you know the midpoint and an endpoint:

$$M(5,-8) = S(\frac{x+4.5}{2}, \frac{y+(-2.5)}{2})$$

$$5 = \frac{x+4.5}{2}, 10 = x+4.5, x = 5.5$$

$$-8 = \frac{y+(-2.5)}{2}, -16 = y+(-2.5), y = -13.5$$

S(5.5,-13.5)

L 1.7 – Area and Perimeter (p. 55)

Keep your formulas straight! One of the most common errors is mixing up the circumference and area formulas for a circle. Another common area is using diameter when you meant radius (or vice versa).

Also, make sure you are careful with units of measurement. You must make sure your dimensions use the same measurement units…convert as needed.