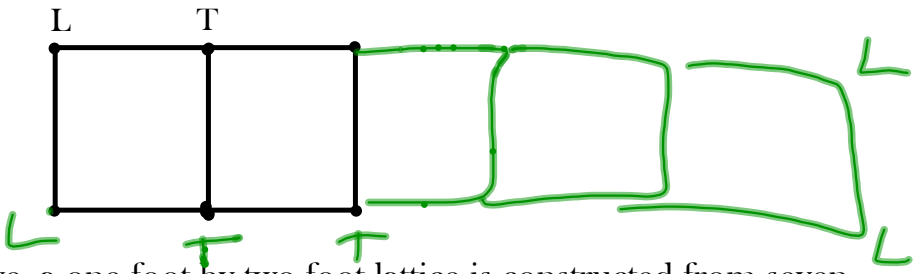
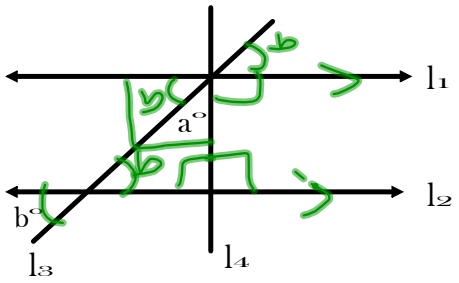
Independent Practice

p.140-141



1. In the figure above, a one-foot by two-foot lattice is constructed from seven one-foot pipes and six connectors of two types: four L connectors, each of which joins two pipes, and two T connectors, each of which joins three pipes. Which of the following gives the correct number of each type of connector used to make a one-foot by five-foot lattice in the same way?

(A) 4 L, 5 T
(B) 4 L, 8 T
(C) 4 L, 10 T
(D) 20 L, 8 T
(E) 20 L, 10 T

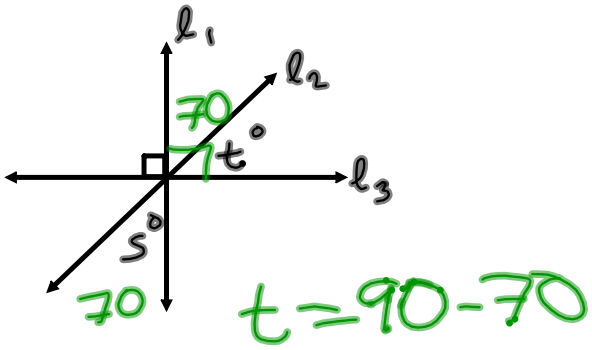


Note: Figure not drawn to scale

2. In the figure above, l_1 is parallel to l_2, and l_4 is perpendicular to l_2. If l_1, l_3, and l_4 meet at one point on l_1. which of the following must be true?

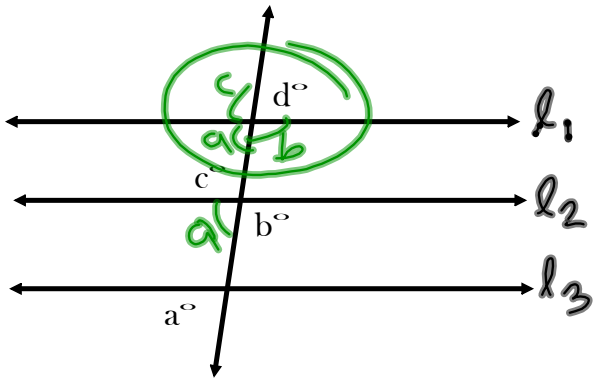
I. l_1 is perpendicular to l_4
II. $a = b$
III. $a + b = 90$

(A) I only
(B) II only
(C) I and II only
(D) I and III only
(E) II and III only



3. In the figure above, l_1, l_2, and l_3 intersect at one point. If s=70, what is the value of t?

(A) 20
(B) 40
(C) 50
(D) 60
(E) 80

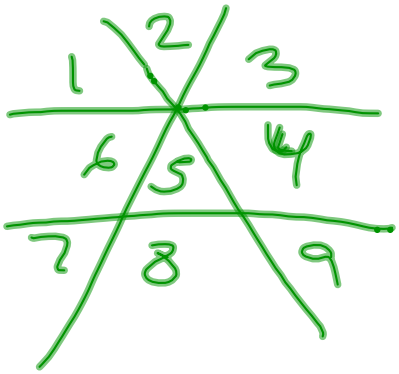


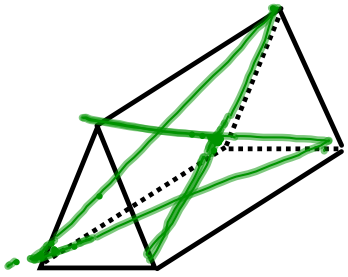
4. In the figure above, l_1 is parallel to l_2 and l_2 is parallel to l_3. What is the value of a+b+c+d?

(A) 180
(B) 270
(C) 360
(D) 450
(E) It cannot be determined from the information given.

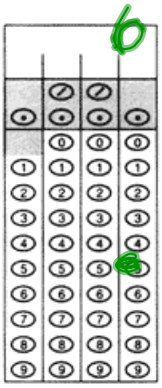
5. Two Parallel lines are drawn in a plane. Two additional lines are drawn in the same plane, in such a way that there are three different intersection points between the four lines. Neither of the additional lines is parallel to the two original lines. Into how many non-overlapping regions do these lines divide the plane?

(A) five
(B) six
(C) siven
(D) eight
(E) nine





6. The figure above is three-dimensional with five faces and nine edges. How many different pairs of vertices can be connected with line segments that are not edges of the figure?

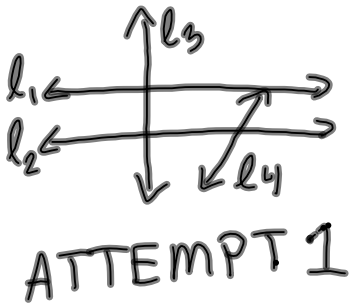


KAP Wrap

p.143

Patrick is having trouble creating the drawing for question 5 in the Independent Practice Section. He made three attempts below.

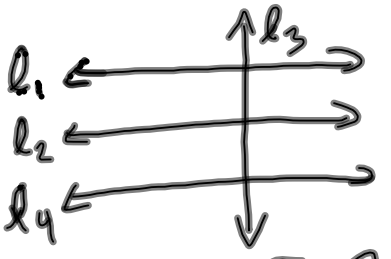
Describe the error in Patrick's first attempt.



ATTEMPT 1

l_4 continues

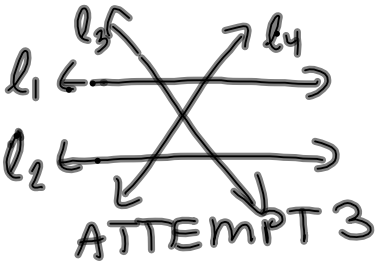
Describe the error in Patrick's second attempt.



ATTEMPT 2

l_4 can't be parallel

Describe the error in Patrick's third attempt.



ATTEMPT 3

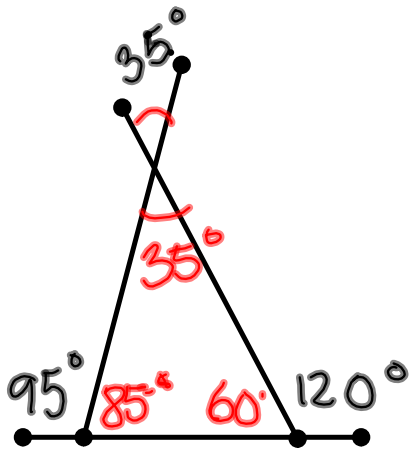
more than 3 intersection points

Draw the scenario correctly.

Triangles

Thinking KAP p.145

The diagram below shows a triangle formed by intersecting lines. Use your knowledge of lines and angles to fill in the missing angle measures.



Triangle Fundamentals

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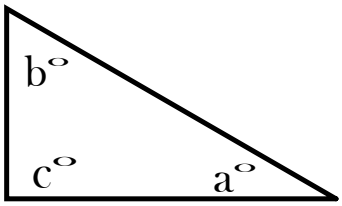
Of all the shapes, triangles appear most frequently on the SAT.

Triangle Rules
• the measure of three interior angles in any triangle must have a sum of 180 degrees. • Any two side lengths of a triangle, when added, must be greater than the third side length.

TRY IT OUT

$a < b + c$

$a > b - c$



1. In the figure above, if b=2a and c = 3a, what is the value of a?

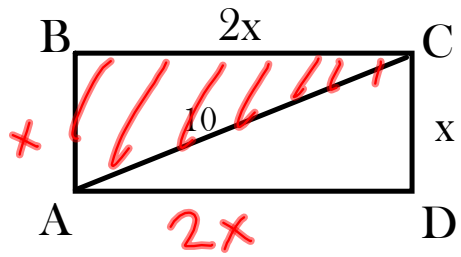
(A) 20
(B) 30
(C) 45
(D) 50
(E) 60

Using Formulas

$a^2 + b^2 = c^2$ only right triangles

$A=(1/2)bh$

TRY IT OUT



2. If ABCD is a rectangle, what is the area of ΔABC?

(A) $\sqrt{5}$
(B) $2\sqrt{5}$
(C) 10
(D) 20
(E) $10\sqrt{5}$

$x^2 + (2x)^2 = 10^2$

$x^2 + 4x^2 = 100$

$\frac{5x^2 = 100}{5}$

$x^2 = 20$

$x = \sqrt{20}$