

Georgia Department of Education
Georgia Standards of Excellence Framework
GSE Algebra I • Unit 1

example, students will write $(4x + 3) - (2x + 1) = 4x + 3 - 2x + 1 = 2x + 4$ rather than $4x + 3 - 2x - 1 = 2x + 2$.

4. Students will change the degree of the variable when adding/subtracting like terms. For example, $2x + 3x = 5x^2$ rather than $5x$.
5. Students may not distribute the multiplication of polynomials correctly and only multiply like terms. For example, they will write $(x + 3)(x - 2) = x^2 - 6$ rather than $x^2 - 2x + 3x - 6$

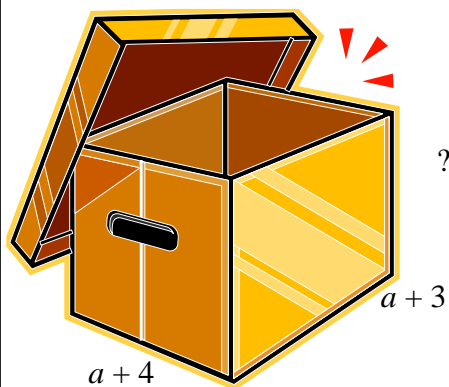
The problems below will be placed on the walls around the room with large sheets of paper under each. Students will work in teams of four people to travel around the room and write their solutions under the papers. Each team should be given a letter name that corresponds to their starting problem. After each team is given about 3–4 minutes on a problem, the teacher should call time, and the teams move to the next station.

Review and practice: <http://www.wiziq.com/tutorial/111186-7-5-Multiplying-a-Polynomial-by-a-Monomial>

Having each time write in a different color can be beneficial as well as designating roles for each team member such as scribe, director, checker, and presenter. After all teams have rotated through all the problems, the teams can travel back through to check for differences in answers. This can lead to a discussion on which problems are correct or a discussion on the different methods used to arrive at the same answer.

Problem A (extension problem)

The volume in cubic units of the box is $a^3 + 8a^2 + 19a + 12$. Its length is $a + 4$ units and its width is $a + 3$ units. What is its height?

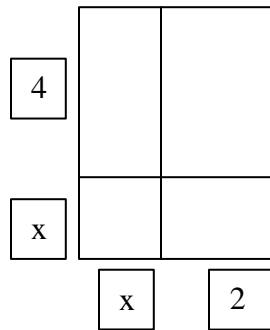


answer: $a + 1$

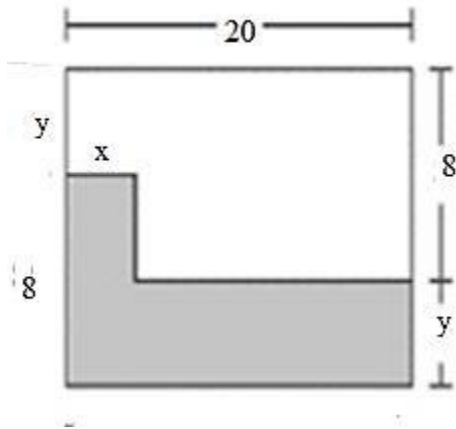
Problem B

What is an illustration of $(x + 2)(x + 4)$?

Possible answer:



Problem C: This rectangle shows the floor plan of an office. The shaded part of the plan is an area that is getting new tile. Write an algebraic expression that represents the area of the office that is getting new tile.

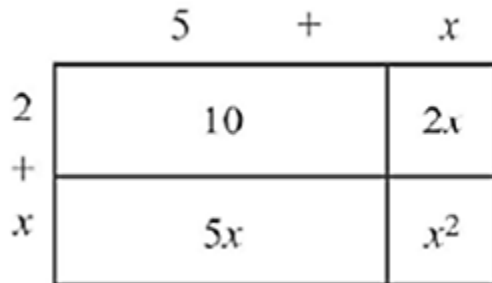


Possible Answer

$$8x - xy + 20y$$

Problem D

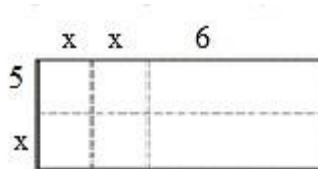
What is the rectangle modeling?



Answer: $(x + 5)(x + 2)$

Problem E

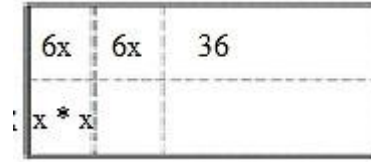
What is the product of the expression represented by the model below?



Answer: $2x^2 + 16x + 30$

Problem F

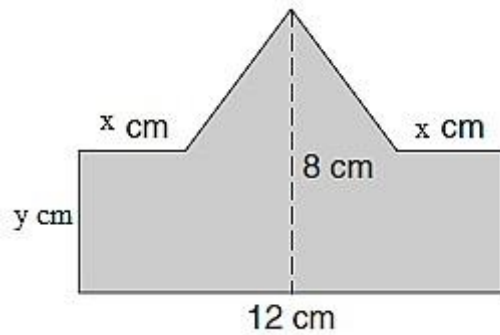
Write the dimensions for the rectangle below.



Answer: $(x + 6)$ by $(x + x + 6)$ or $(x + 6)$ by $(2x + 6)$

Problem G

Find the area, including units, of the shape below.



Answer: $-8x + xy + 6y + 48$