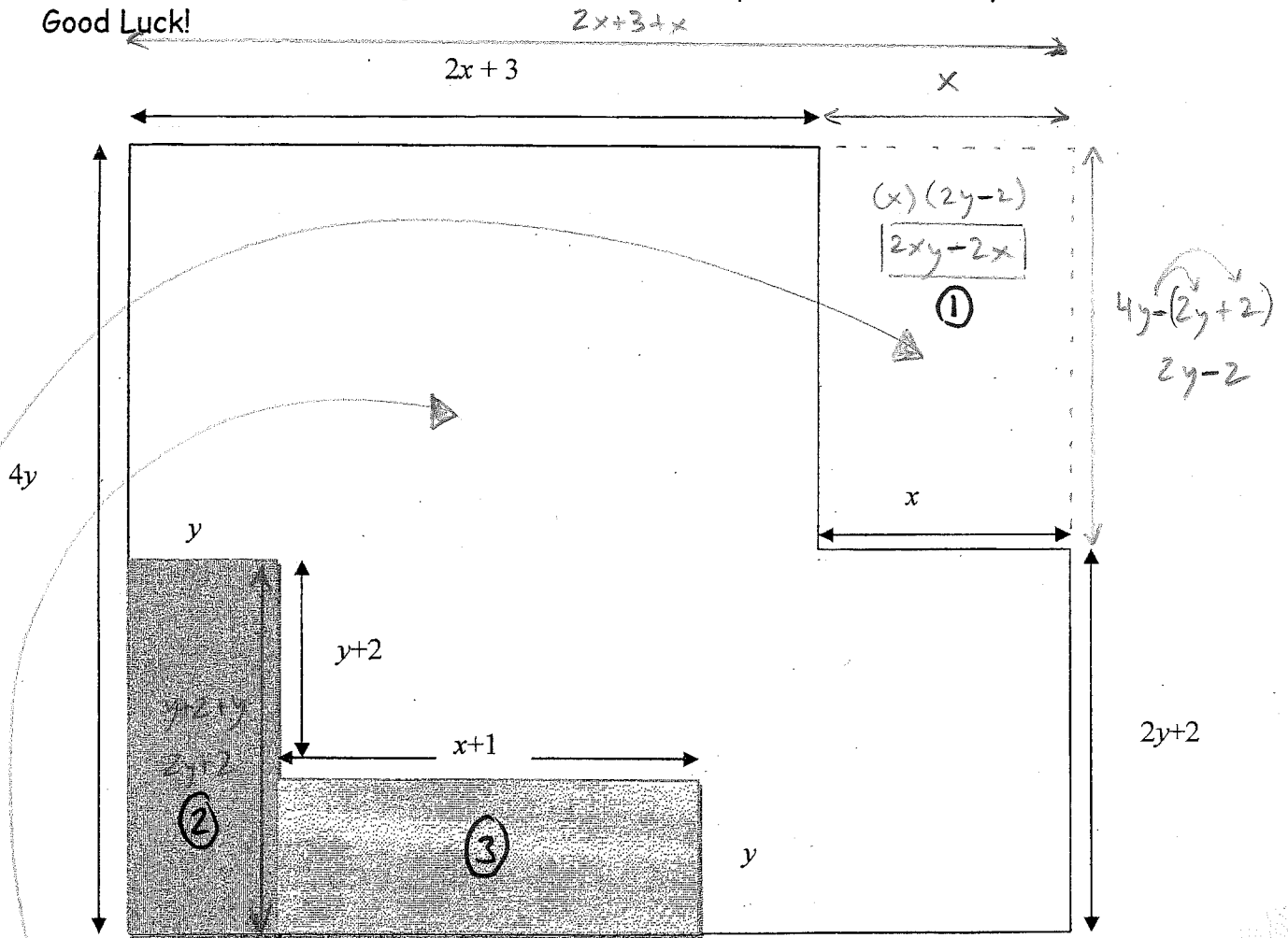


Polynomials
Performance task

Al Gebra wants to cover his kitchen floor with new porcelain tile. The diagram below represents the kitchen floor plan. The shaded area represents the portion of the floor that does not need to be covered with tile (this is the space for cupboards, counters etc...)

Find the simplified expression for the surface area that Al has to cover.

Ensure your solution is organized, neat, clear and precise. Show all your work.
Good Luck!



Total Area
 $(2x+3+x) \cdot (4y)$
 $(3x+3) \cdot (4y)$
 $12xy + 12y$

② $(y)(2y+2)$
 $2y^2 + 2y$

③ $(y)(x+1)$
 $xy + y$

Total Area - ① - ② - ③
 $= 12xy + 12y - (2xy - 2x) - (2y^2 + 2y) - (xy + y)$
 $= 12xy + 12y - 2xy + 2x - 2y^2 - 2y - xy - y$
 $= 12xy - 2xy - xy + 2x - 2y^2 - 2y - y$
 $= 9xy + 2x - 2y^2 + 13y$

$= 9xy + 2x - 2y^2 + 13y$
 $= -2y^2 + 9xy + 2x + 13y$