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6. **a)** $(x + 8)(x - 4)$ **d)** $(2x + 1)^2$ **g)** $(3x + 4)(2x + 3)$
 b) $(x - 5)(x - 2)$ **e)** $(4x + 1)(x - 4)$ **h)** $(5x + 3)(2x - 1)$
 c) $(x + 6)(3x - 2)$ **f)** $(6x - 1)(x - 1)$ **i)** $(6x + 5)(2x - 3)$

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10. The commercial translates into the equation $(2x + 10)^2 - 10 = x$.
 The solution for this equation is $x = -6$ or $x = -3.75$.
 The smallest number that would fit this description is therefore -6 .

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15. **a)** *Several answers possible. Example:* $\frac{x}{x + 4} = \frac{x + 2}{2x - 1}$.
 b) $x^2 - 7x - 8 = 0$, or all other equivalent equations.
 c) The solution for the equation is $x = 8$ or $x = -1$.
 The negative solution must be rejected because $x > 3$. Therefore $x = 8$.
 The dimensions of the large rectangle are 12 by 15. Its area is 180.
 The dimensions of the small rectangle are 8 by 10. Its area is 80.
 The area of the blue section is therefore 100, or $180 - 80$.