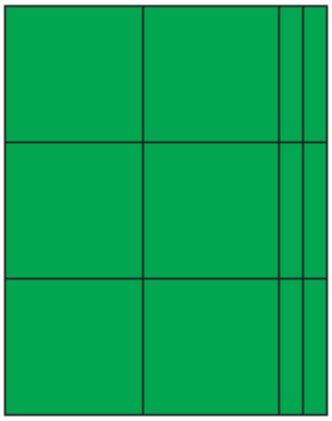
CHAPTER 3 Polynomials
3.7 The Distributive Property
Expanding Using the Distributive Property

Example:

a) Find the length and width of the area model shown.



b) Use the distributive property to expand $3(5y-2)$.

c) Use the distributive property to expand $7a(a^2+2)$.

d) Use the distributive property to expand $3[2+5(4p-3)]$.

Solution:

a) The length is $3x$. The width is $2x + 2$.

b) $3(5y-2) = 3(5y-2)$

$= 3(5y) - 3(2)$

$= 15y - 6$

c) $7a(a^2+2) = 7a(a^2+2)$

$= 7a(a^2) + 7a(2)$

$= 7a^3 + 14a$

d) $3[2+5(4p-3)] = 3[2+5(4p-3)]$

$= 3[2+5(4p)-5(3)]$

$= 3(2+20p-15)$

$= 3(20p-13)$

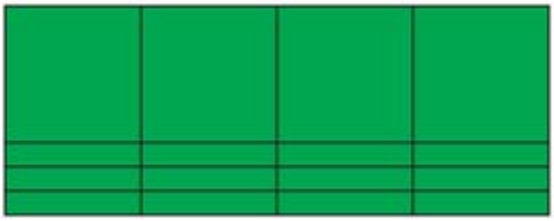
$= 3(20p-13)$

$= 3(20p)-3(13)$

$= 60p - 39$

Practice:

1. Find the length and width of the area model shown.



2. Use the distributive property to expand $b(2b-3)$.

3. Use the distributive property to expand $3z\left(2z^3+5z\right)$.

4. Use the distributive property to expand $x\left[1+3(4x-1)\right]$.

Answers:

1. length $4x$, width $x + 3$

2. $2b^2-3b$

3. $6z^4+15z^2$

4. $12x^2-2x$