

Algebra'scool Student Sheets  
Module 11 Lesson 4

Guided Notes

1. Simplify:  $x^3y \cdot 6xy^2$   
Select the correct answer.

A.  $6x^4y^3$   
B.  $6x^3xyy^2$   
C.  $6x^2y$   
D.  $6x^3y^2$

2. Simplify:  $2x(x+2)$   
Select the correct answer.

A.  $2x^2 + 2$   
B.  $2x \cdot x + 4x$   
C.  $2x^2 + 4x$   
D.  $x + 4x$

3. Multiply:  $-4ab(8a-3b^3)$   
Select the correct answer.

A.  $-32a^2b - 12ab^4$   
B.  $-32aba + 12b^4$   
C.  $-32a^2b - 3b^3$   
D.  $-32a^2b + 12ab^4$

4. Simplify:  $(2p-5)(p-4)$   
Select the correct answer.

A.  $2p^2 + 20$   
B.  $2p^2 - 8p - 5p + 20$   
C.  $2p^2 - 13p + 20$   
D.  $2p - 5p + 20$

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Module 11 Lesson 4

Guided Practice

Set 1

1. Simplify:  $(3v^4)(-5v^2)$   
Select the correct answer.
  - A.  $-15v^4v^2$
  - B.  $-15v^8$
  - C.  $-15v^6$
  - D.  $-15v^2$
  
2. Simplify  $(-2x^2y^5)(-4x^3)$   
Select the correct answer.
  - A.  $8x^5y^5$
  - B.  $-8x^5y^5$
  - C.  $-6x^5y^5$
  - D.  $8x^2x^3y^5$
  
3. Simplify:  $(2r^3)(-3r^2s^2)(2s^2)$   
Select the correct answer.
  - A.  $-12(r^3)(r^2s^2)(s^2)$
  - B.  $-12r^5s^4$
  - C.  $r^5s^4$
  - D.  $12r^5s^4$

**Set 2.**

1. Simplify:  $5d(3d^2 - 6d)$   
Select the correct answer.

A.  $15d^3 - 6d$   
B.  $15dd^2 - 30dd$   
C.  $15d^3 + 30d^2$   
D.  $15d^3 - 30d^2$

2. Simplify:  $bc^3(9c^3 - 4b^2)$   
Select the correct answer.

A.  $9bc^6 - 4b^3c^3$   
B.  $9bc^6 - 4b^2$   
C.  $bc^3 \cdot 9c^3 - bc^3 \cdot 4b^2$   
D.  $9c^3 - 4b^3c^3$

**Set 3.**

1. Simplify:  $(m + 2)(m + 3)$   
Select the correct answer.

A.  $m^2 + 3m + 2m + 6$   
B.  $m^2 + 5m + 6$   
C.  $m + 2m + 6$   
D.  $m^2 + 6$

2. Simplify:  $(2r - 7)(3r + 5)$   
Select the correct answer.

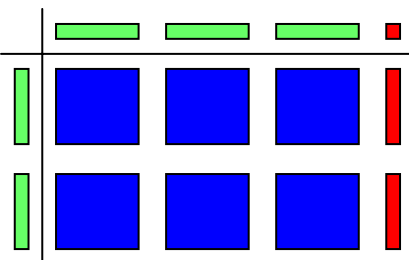
A.  $6r^2 - 11r + 35$   
B.  $5r^2 - 11r - 35$   
C.  $2r - 21r - 35$   
D.  $6r^2 - 11r - 35$

3. Simplify:  $(p-8)(p+8)$   
 Select the correct answer.

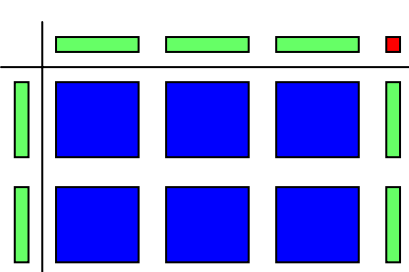
- A.  $p^2 - 64$
- B.  $p^2 + 8p - 8p - 64$
- C.  $p^2$
- D.  $p^2 + 64$

**Manipulative Set**

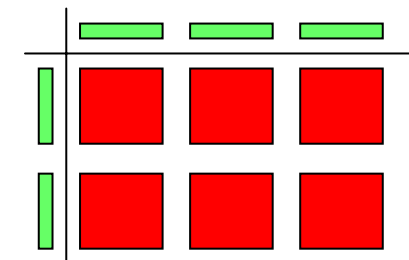
1. Simplify:  $2k(3k-1)$   
 Select the correct answer.

A.   $= 6k^2 - 2k$

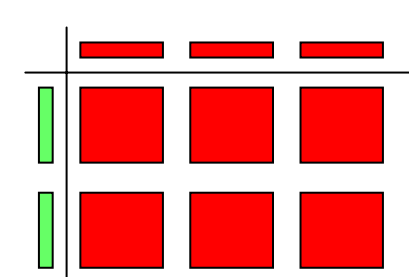
The diagram shows a rectangular area model for the expression  $2k(3k-1)$ . A horizontal line is drawn across the top. Above the line, there are three long green horizontal bars and one small red square. Below the line, there are two rows of blue squares. The top row has three blue squares, and the bottom row has three blue squares. To the left of the blue squares, there are two long green vertical bars. To the right of the blue squares, there are two long red vertical bars.

B.   $= 6k^2 + 2k$

The diagram shows a rectangular area model for the expression  $2k(3k+1)$ . A horizontal line is drawn across the top. Above the line, there are three long green horizontal bars and one small red square. Below the line, there are two rows of blue squares. The top row has three blue squares, and the bottom row has three blue squares. To the left of the blue squares, there are two long green vertical bars. To the right of the blue squares, there are two long green vertical bars.

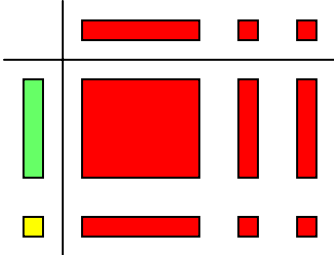
C.   $= -6k^2 - 2k$

The diagram shows a rectangular area model for the expression  $-2k(3k-1)$ . A horizontal line is drawn across the top. Above the line, there are three long green horizontal bars and one small red square. Below the line, there are two rows of red squares. The top row has three red squares, and the bottom row has three red squares. To the left of the red squares, there are two long green vertical bars. To the right of the red squares, there are two long red vertical bars.

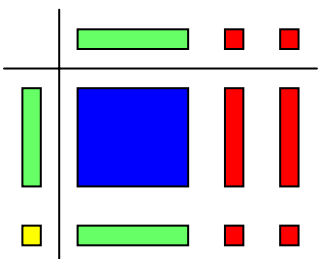
D.   $= -6k^2 + 2k$

The diagram shows a rectangular area model for the expression  $-2k(3k+1)$ . A horizontal line is drawn across the top. Above the line, there are three long red horizontal bars and one small green square. Below the line, there are two rows of red squares. The top row has three red squares, and the bottom row has three red squares. To the left of the red squares, there are two long green vertical bars. To the right of the red squares, there are two long green vertical bars.

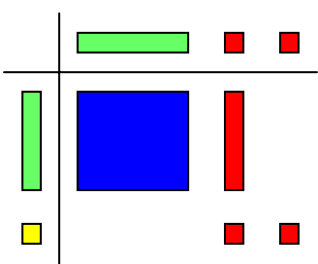
2. Simplify:  $(f + 1)(f - 2)$ .  
 Select the correct answer.

A.   $= -f^2 - 3f - 2$

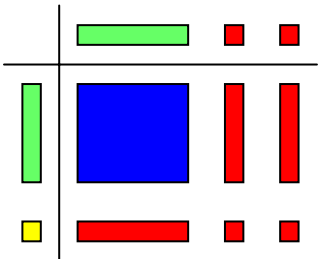
The diagram shows a grid with a horizontal line and a vertical line. To the left of the vertical line are a green vertical bar and a yellow square. To the right of the horizontal line are a red horizontal bar and two red squares. To the right of the vertical line are a red square, two red vertical bars, and two red squares.

B.   $= f^2 - 2f + f - 2$

The diagram shows a grid with a horizontal line and a vertical line. To the left of the vertical line are a green vertical bar and a yellow square. To the right of the horizontal line are a green horizontal bar and two red squares. To the right of the vertical line are a blue square, two red vertical bars, and two red squares.

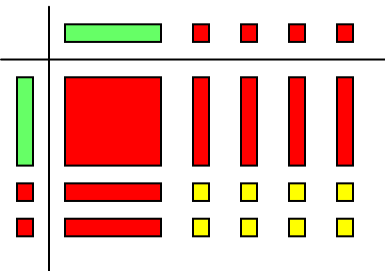
C.   $= f^2 - f - 2$

The diagram shows a grid with a horizontal line and a vertical line. To the left of the vertical line are a green vertical bar and a yellow square. To the right of the horizontal line are a green horizontal bar and two red squares. To the right of the vertical line are a blue square, one red vertical bar, and two red squares.

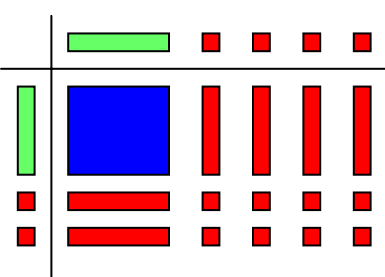
D.   $= f^2 - 3f - 2$

The diagram shows a grid with a horizontal line and a vertical line. To the left of the vertical line are a green vertical bar and a yellow square. To the right of the horizontal line are a green horizontal bar and two red squares. To the right of the vertical line are a blue square, two red vertical bars, and two red squares.

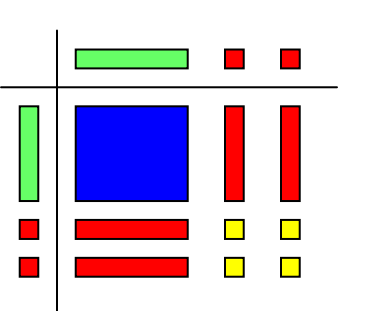
3. Simplify:  $(x-2)(x-4)$   
 Select the correct answer.

A.   $= -x^2 - 6x + 8$

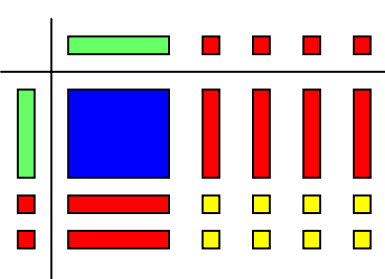
The diagram shows a rectangular area model for the product  $(x-2)(x-4)$ . The top edge is divided into a green segment of length  $x$  and a red segment of length  $-2$ . The right edge is divided into a red segment of length  $-4$  and a yellow segment of length  $4$ . The area is partitioned into a large red square of side  $x$ , four red vertical rectangles of size  $x \times 2$ , two red horizontal rectangles of size  $2 \times 4$ , and eight yellow small squares of size  $2 \times 2$ .

B.   $= x^2 - 6x - 8$

The diagram shows a rectangular area model for the product  $(x-2)(x-4)$ . The top edge is divided into a green segment of length  $x$  and a red segment of length  $-2$ . The right edge is divided into a red segment of length  $-4$  and a red segment of length  $4$ . The area is partitioned into a large blue square of side  $x$ , four red vertical rectangles of size  $x \times 2$ , two red horizontal rectangles of size  $2 \times 4$ , and eight red small squares of size  $2 \times 2$ .

C.   $= x^2 - 4x + 4$

The diagram shows a rectangular area model for the product  $(x-2)(x-4)$ . The top edge is divided into a green segment of length  $x$  and a red segment of length  $-2$ . The right edge is divided into a red segment of length  $-4$  and a yellow segment of length  $4$ . The area is partitioned into a large blue square of side  $x$ , two red vertical rectangles of size  $x \times 2$ , two red horizontal rectangles of size  $2 \times 4$ , and four yellow small squares of size  $2 \times 2$ .

D.   $= x^2 - 6x + 8$

The diagram shows a rectangular area model for the product  $(x-2)(x-4)$ . The top edge is divided into a green segment of length  $x$  and a red segment of length  $-2$ . The right edge is divided into a red segment of length  $-4$  and a yellow segment of length  $4$ . The area is partitioned into a large blue square of side  $x$ , four red vertical rectangles of size  $x \times 2$ , two red horizontal rectangles of size  $2 \times 4$ , and eight yellow small squares of size  $2 \times 2$ .