

## Grade 11 worksheet

# What Happened When the Boarding House Blew Up?

Factor each trinomial below. Find one of the factors in **each** column of binomials. Notice the letter next to one factor and the number next to the other. Write the letter in the box at the bottom of the page that contains the matching number.

- ①  $3x^2 + 7x + 2 = (x+2)(3x+1)$   
 ②  $2x^2 + 5x + 3 = (x+1)(2x+3)$   
 ③  $3x^2 - 16x + 5 = (x-5)(3x-1)$   
 ④  $7x^2 - 9x + 2 = (x-1)(7x-2)$   
 ⑤  $6u^2 + 5u + 1 = (3u+1)(2u+1)$   
 ⑥  $8u^2 - 9u + 1 = (u-1)(8u-1)$   
 ⑦  $10u^2 + 17u + 3 = (2u+3)(5u+1)$   
 ⑧  $9u^2 - 9u + 2 = (3u-2)(3u-1)$   
 ⑨  $5u^2 + 11u + 6 = (u+1)(5u+6)$

- ⑤  $(5u+3)$  Y  $(3u-2)$   
 ③  $(x-1)$  E  $(x-5)$   
 ⑧  $(3x+1)$  G  $(8u-1)$   
 ⑭  $(3u-1)$  O  $(7x-2)$   
 ⑥  $(2u+3)$  R  $(5u+1)$   
 ⑮  $(x+1)$  W  $(x+2)$   
 ⑨  $(5u+6)$  L  $(7x+2)$   
 ⑦  $(2u+1)$  I  $(2x+3)$   
 ⑪  $(3x-1)$  E  $(u+1)$   
 ⑰  $(u-1)$  S  $(3u+1)$

- ⑩  $3n^2 + 2n - 1 = (n+1)(3n-1)$   
 ⑪  $5n^2 - 4n - 1 = (n-1)(5n+1)$   
 ⑫  $2n^2 + 5n - 3 = (n+3)(2n-1)$   
 ⑬  $7n^2 - 13n - 2 = (n-2)(7n+1)$   
 ⑭  $3t^2 + 14t - 5 = (t+5)(3t-1)$   
 ⑮  $4t^2 - 11t + 7 = (4t-7)(t-1)$   
 ⑯  $6t^2 + 5t - 1 = (t+1)(6t-1)$   
 ⑰  $3t^2 - 20t - 7 = (t-7)(3t+1)$

- ⑫  $(3t-1)$  N  $(n+3)$   
 ⑤  $(n-1)$  R  $(t-1)$   
 ④  $(3t+1)$  P  $(2t+1)$   
 ⑩  $(n-2)$  O  $(n+1)$   
 ⑬  $(t+1)$  F  $(t+5)$   
 ②  $(3n-1)$  E  $(5n+1)$   
 ⑯  $(2n-1)$  M  $(t-7)$   
 ④  $(3t-7)$  R  $(7n+1)$   
 ①  $(4t-7)$  L  $(6t-1)$

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
R	O	O	M	E	R	S	W	E	R	E	F	L	Y	I	N	G



# Lesson 3.6B Worksheet

KEY

①  $3x^2 + 7x + 2$   $3 \times 2 = \textcircled{6}$   $6 \wedge 1$   $2 \times 3 = \textcircled{6}$   $2 \wedge 3$   
 $3x^2 + 6x + x + 2$   
 $3x(x+2) + 1(x+2)$   
 $(x+2)(3x+1)$

③  $3x^2 - 16x + 5$   $3 \times 5 = \textcircled{15}$   $-15 \wedge -1$   $7 \times 2 = \textcircled{14}$   $-7 \wedge -2$   
 $3x^2 - 15x - x + 5$   
 $3x(x-5) - 1(x-5)$   
 $(x-5)(3x-1)$

⑤  $6u^2 + 5u + 1$   $6 \times 1 = \textcircled{6}$   $2 \wedge 3$   $8 \times 1 = \textcircled{8}$   $-8 \wedge -1$   
 $6u^2 + 2u + 3u + 1$   
 $2u(3u+1) + 1(3u+1)$   
 $(3u+1)(2u+1)$

⑦  $10u^2 + 17u + 3$   $10 \times 3 = \textcircled{30}$   $15 \wedge 2$   $9 \times 2 = \textcircled{18}$   $-6 \wedge -3$   
 $10u^2 + 15u + 2u + 3$   
 $5u(2u+3) + 1(2u+3)$   
 $(2u+3)(5u+1)$

⑨  $5u^2 + 11u + 6$   $5 \times 6 = \textcircled{30}$   $5 \wedge 6$   $3 \times (-1) = \textcircled{-3}$   $3 \wedge -1$   
 $5u^2 + 5u + 6u + 6$   
 $5u(u+1) + 6(u+1)$   
 $(u+1)(5u+6)$

⑪  $5n^2 - 4n - 1$   $5 \times (-1) = \textcircled{-5}$   $-5 \wedge 1$   $2 \times (-3) = \textcircled{-6}$   $+6 \wedge -1$   
 $5n^2 - 5n + n - 1$   
 $5n(n-1) - 1(n-1)$   
 $(n-1)(5n+1)$

⑫  $2n^2 + 5n - 3$   
 $2n^2 + 6n - n - 3$   
 $2n(n+3) - 1(n+3)$   
 $(n+3)(2n-1)$

$$\textcircled{13} \quad 7n^2 - 13n - 2$$

$$7n^2 - 14n + n - 2$$

$$7n(n-2) + 1(n-2)$$

$$(n-2)(7n+1)$$

$$7 \times (-2) = \textcircled{-14}$$
  
$$-14 + 1$$

$$\textcircled{14} \quad 3t^2 + 14t - 5$$

$$3t^2 + 15t - t - 5$$

$$3t(t+5) - 1(t+5)$$

$$(t+5)(3t-1)$$

$$3 \times (-5) = \textcircled{-15}$$
  
$$15 - 1$$

$$\textcircled{15} \quad 4t^2 - 11t + 7$$

$$4t^2 - 7t - 4t + 7$$

$$t(4t-7) - 1(4t-7)$$

$$(4t-7)(t-1)$$

$$4 \times 7 = \textcircled{28}$$
  
$$-7 - 4$$

$$\textcircled{16} \quad 6t^2 + 5t - 1$$

$$6t^2 + 6t - t - 1$$

$$6t(t+1) - 1(t+1)$$

$$(t+1)(6t-1)$$

$$6 \times (-1) = \textcircled{-6}$$
  
$$6 - 1$$

$$\textcircled{17} \quad 3t^2 - 20t - 7$$

$$3t^2 - 21t + t - 7$$

$$3t(t-7) + 1(t-7)$$

$$(t-7)(3t+1)$$

$$3 \times (-7) = \textcircled{-21}$$
  
$$-21 + 1$$