

Name: _____

Date: _____

Block: _____

Worksheet Factoring Trinomials

Factor the following completely. Look for a GCF first.

1. $x^2 + 13x - 30$
 $(x-2)(x+15)$
 $\begin{array}{r} -30 \\ -3 \cdot 10 \\ -10 \cdot 3 \\ -6 \cdot 5 \\ -5 \cdot 6 \\ \hline -2 \quad 15 \end{array}$
2. $x^2 - 5x - 24$
 $(x-8)(x+3)$
 $\begin{array}{r} -24 \\ -6 \cdot 4 \\ -4 \cdot 6 \\ \hline -8 \cdot 3 \\ -3 \cdot 8 \\ -12 \cdot 2 \\ -2 \cdot 12 \end{array}$
3. $x^2 + 5x - 36$
 $(x-4)(x+9)$
 $\begin{array}{r} -36 \\ -6 \cdot 6 \\ -9 \cdot 4 \\ \hline -4 \cdot 9 \\ -12 \cdot 3 \\ -3 \cdot 12 \end{array}$
4. $x^2 + 15x + 56$
 $(x+8)(x+7)$
 $\begin{array}{r} 56 \\ \hline 8 \cdot 7 \\ 14 \cdot 4 \end{array}$
5. $x^2 + 15x + 54$
 $(x+9)(x+6)$
 $\begin{array}{r} 54 \\ \hline 9 \cdot 6 \\ 18 \cdot 3 \end{array}$
6. $x^2 - 8x - 20$
 $(x-10)(x+2)$
 $\begin{array}{r} -20 \\ \hline -10 \cdot 2 \\ -5 \cdot 4 \\ -2 \cdot 10 \\ -4 \cdot 5 \end{array}$
7. $x^2 + 4x - 32$
 $(x+8)(x-4)$
 $\begin{array}{r} -32 \\ -8 \cdot 4 \\ \hline -4 \cdot 8 \end{array}$
8. $x^2 - x - 20$
 $(x-5)(x+4)$
 $\begin{array}{r} -20 \\ -10 \cdot 2 \\ -2 \cdot 10 \\ \hline -5 \cdot 4 \\ -4 \cdot 5 \end{array}$
9. $x^2 + 11x + 30$
 $(x+5)(x+6)$
 $\begin{array}{r} 30 \\ 15 \cdot 2 \\ 10 \cdot 3 \\ 5 \cdot 6 \end{array}$
10. $x^2 + 14x + 49$
 $(x+7)(x+7)$
11. $x^2 + 10x + 16$
 $(x+8)(x+2)$
12. $x^2 + 3x + 2$
 $(x+1)(x+2)$
13. $x^2 + 15x + 44$
 $(x+11)(x+4)$
14. $x^2 + 6x + 5$
 $(x+5)(x+1)$
15. $2x^2 + 20x + 32$
 $2(x^2 + 10x + 16)$
 $2(x+8)(x+2)$
16. $3x^2 - 15x + 18$
 $3(x^2 - 5x + 6)$
 $\begin{array}{r} 6 \\ \hline -3 \cdot -2 \\ -6 \cdot -1 \end{array}$
17. $2x^2 + 8x - 24$
 $2(x^2 + 4x - 12)$
 $\begin{array}{r} -12 \\ -4 \cdot 3 \\ -3 \cdot 4 \\ \hline -6 \cdot 2 \\ -2 \cdot 6 \end{array}$
18. $2x^2 + 16x - 32$
 $2(x^2 + 8x - 16)$
 $\begin{array}{r} -16 \\ -8 \cdot 2 \\ -2 \cdot 8 \\ -4 \cdot 4 \\ -16 \cdot 1 \\ -1 \cdot 16 \end{array}$
19. $3(x-3)(x-2)$
20. $2(x-2)(x+6)$