

AA PREP—FACTORING VARIATIONS MORE—WORKSHEET #2 KEY

Factor completely.

<p>1) $x(2x+7) - 4(2x+7)$ GROUPING</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> $(x-4)(2x+7)$ </div>	<p>2) $x^3 + 6x^2 - 4x - 24$ GROUPING</p> $x^2(x+6) - 4(x+6)$ $(x^2 - 4)(x+6)$ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> $(x-2)(x+2)(x+6)$ </div>
<p>3) $4x^2 - 11x - 3$ MORE COMPLICATED QUADRATIC TRINOMIAL $a \neq 1$</p> <div style="text-align: center;"> $\begin{array}{r} -12 \quad 1 \quad a \cdot c \\ -12 \quad \times \quad 1 \\ -11 \quad b \end{array}$ </div> $4x^2 - 12x + 1x - 3$ $4x(x-3) + 1(x-3)$ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> $(4x+1)(x-3)$ </div>	<p>4) $6x^2 + 5x - 4$ MORE COMPLICATED QUADRATIC TRINOMIAL $a \neq 1$</p> <div style="text-align: center;"> $\begin{array}{r} -24 \quad a \cdot c \\ 6 \quad \times \quad -3 \\ 5 \quad b \end{array}$ </div> $6x^2 + 6x - 3x - 4$ $2x(3x+4) - 1(3x+4)$ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> $(2x-1)(3x+4)$ </div>
<p>5) $36x^2 - 60x + 25$ PERFECT SQUARE TRINOMIAL</p> <div style="display: flex; justify-content: space-around; margin-bottom: 10px;"> $(6x)^2$ $(5)^2$ </div> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> $(6x-5)^2$ </div>	<p>6) $16x^2 + 24x + 9$ PERFECT SQUARE TRINOMIAL</p> <div style="display: flex; justify-content: space-around; margin-bottom: 10px;"> $(4x)^2$ $(3)^2$ </div> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> $(4x+3)^2$ </div>
<p>7) $x^3 - 64$ DIFF OF CUBES</p> <div style="display: flex; justify-content: space-around; margin-bottom: 10px;"> $(x)^3$ $(4)^3$ </div> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> $(x-4)(x^2 + 4x + 16)$ </div>	<p>8) $8x^3 + 1$ SUM OF CUBES</p> <div style="display: flex; justify-content: space-around; margin-bottom: 10px;"> $(2x)^3$ $(1)^3$ </div> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> $(2x+1)(4x^2 - 2x + 1)$ </div>
<p>9) $x^6 + 125$ SUM OF CUBES</p> <div style="display: flex; justify-content: space-around; margin-bottom: 10px;"> $(x^2)^3$ $(5)^3$ </div> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> $(x^2+5)(x^4 - 5x^2 + 25)$ </div>	<p>10) $125x^3 - 27$ DIFF OF CUBES</p> <div style="display: flex; justify-content: space-around; margin-bottom: 10px;"> $(5x)^3$ $(3)^3$ </div> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> $(5x-3)(25x^2 + 15x + 9)$ </div>