

Name: Answer Key

7-1 Factoring by Using the GCF Worksheet

For each problem below, factor by finding the GCF.

<p>1) $2a^4 + 8a$ $(2) \cancel{a} \cancel{a} \cancel{a} \cancel{a} + (2) 4 \cancel{a}$ $2a(a^3 + 4)$</p>	<p>2) $5x^3 - 10$ $(5) \cancel{x} \cancel{x} \cancel{x} - 2 \cdot (5)$ $5(x^3 - 2)$</p>
<p>3) $8ab^2 - 12a^2b^3$ $(2) 4 \cancel{a} \cancel{b} \cancel{b} - (2) 6 \cancel{a} \cancel{a} \cancel{b} \cancel{b} \cancel{b}$ $2ab^2(4 - 6ab)$</p>	<p>4) $10c^3d^2 - 15cd^3$ $2(5) \cancel{c} \cancel{c} \cancel{c} \cancel{d} \cancel{d} - (5) 3 \cancel{c} \cancel{d} \cancel{d} \cancel{d}$ $5cd^2(2c^2 - 3d)$</p>
<p>5) $15f - 20g^2$ $3(5) \cancel{f} - 2(5) 2 \cancel{g} \cancel{g}$ $5(3f - 4g^2)$</p>	<p>6) $3y^4 + 9y^2 - 15$ $(3) \cancel{y} \cancel{y} \cancel{y} \cancel{y} + (3) 3 \cancel{y} \cancel{y} - (3) 5$ $3(y^4 + 3y^2 - 5)$</p>
<p>7) $10d^7 + 2d^5$ $(2) 5 \boxed{d \cancel{d} \cancel{d} \cancel{d} \cancel{d} \cancel{d} \cancel{d}} + (2) \boxed{d \cancel{d} \cancel{d} \cancel{d} \cancel{d}}$ $2d^5(5d^2 + 1)$</p>	<p>8) $7w^5 - 35w^2$ $(7) \boxed{w \cancel{w} \cancel{w} \cancel{w} \cancel{w}} - (7) 5 \boxed{w \cancel{w}}$ $7w^2(w^3 - 5)$</p>
<p>9) $2x + 2y$ $(2) \cancel{x} + (2) \cancel{y}$ $2(x + y)$</p>	<p>10) $-32y^2 - 24y$ $\boxed{-2 \cdot 2 \cdot 2 \cdot 2 \cdot 2} \cdot \cancel{y} \cancel{y} + \boxed{-2 \cdot 2 \cdot 2} \cdot 3 \cancel{y}$ $-2^3 y(4y + 3)$ $-8y(4y + 3)$</p>
<p>11) $6x^2yz + 2xy^2z - 4xyz$ $(2) \cancel{3} \cancel{x} \cancel{x} \cancel{y} \cancel{z} + (2) \cancel{x} \cancel{y} \cancel{y} \cancel{z} - 2 \cancel{2} \cancel{x} \cancel{y} \cancel{z}$ $2xyz(3x + y - 2)$</p>	<p>12) $12a^4b^3c^2 - 4a^3bc^2 + 8a^2c - 16ab$ $4a(3a^3b^3c^2 - a^2bc^2 + 2ac - 4b)$</p>

Review - Multiply and simplify.

<p>13) $(2x-9)(x+4)$</p> $2x^2 - x - 36$	<p>14) $(x-4)(2x^2-3x+5)$</p> $2x^3 - 3x^2 + 5x - 8x^2 + 2x - 20$ $2x^3 - 24x^2 + 17x - 20$												
<p>15) $(3x+10)^2$</p> <table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td></td> <td>3x</td> <td>10</td> <td></td> </tr> <tr> <td>3x</td> <td>9x²</td> <td>30x</td> <td></td> </tr> <tr> <td>10</td> <td>30x</td> <td>100</td> <td></td> </tr> </table> $9x^2 + 60x + 100$		3x	10		3x	9x ²	30x		10	30x	100		<p>16) $(7x-8)(7x+8)$</p> $49x^2 - 64$
	3x	10											
3x	9x ²	30x											
10	30x	100											

Review - Add or subtract.

<p>17) $(x^3 - 2x^2 + 8x - 4) + (x^2 + 9x - 7)$</p> $x^3 - x^2 + 17x - 11$	<p>18) $(5x^2 - 4) - (8x^2 + 3x - 9)$</p> $-8x^2 - 3x + 9$ $-3x^2 - 7x + 9$
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Review - Write the polynomial in standard form, then tell what type the polynomial is.

<p>19) $5x^2 - 8 - 2x^4$</p> $-2x^4 + 5x^2 - 8$ <p>trinomial 4th degree</p>	<p>20) $4 + 2x^3$</p> $2x^3 + 4$ <p>binomial cubic</p>
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descending order according to x