

<p>Simplify each expression.</p> <p>1) $(2k + 3k^2 + 8k^4) + (5k^4 + 7k + 5k^2)$</p> <p>A) $13k^4 + 8k^2 + 2k + 5$ B) $13k^4 + 8k^2 + 9k + 5$ C) $13k^4 + 8k^2 + 9k$ D) $8k^4 + 8k^2 + 2k + 5$</p>	<p>2) $(3x^3 + 5 + 7x^2) - (1 - 6x^4 - 6x^2)$</p> <p>A) $4x^4 + 3x^3 + 19x^2 + 4$ B) $6x^4 + 3x^3 + 13x^2 + 4$ C) $6x^4 + 3x^3 + 19x^2 + 4$ D) $4x^4 - 2x^3 + 19x^2 + 4$</p>
<p>Find each product.</p> <p>3) $(8m + 6)(2m + 1)$</p> <p>A) $16m^2 - 4m - 6$ B) $16m^2 + 6$ C) $16m^2 + 4m - 6$ D) $16m^2 + 20m + 6$</p>	<p>4) $(3v - 1)(3v + 1)$</p> <p>A) $9v^2 - 6v + 1$ B) $9v^2 - 1$ C) $9v^2 + 36v + 36$ D) $9v^2 + 6v + 1$</p>
<p>Find each term described.</p> <p>5) 2nd term in expansion of $(4x + 5y)^3$</p> <p>A) $238x^2y$ B) $300xy^2$ C) $240x^2y$ D) $235x^2y$</p>	<p>6) 3rd term in expansion of $(4x + y)^3$</p> <p>A) $48x^2y$ B) $12xy^2$ C) $4xy^2$ D) y^3</p>
<p>Divide.</p> <p>7) $(6x^3 - 22x^2 - 35x - 24) \div (x - 5)$</p> <p>A) $6x^2 + 8x + 7 + \frac{4}{x-5}$ B) $6x^2 + 8x + 5 + \frac{1}{x-5}$ C) $6x^2 + 8x + 2 + \frac{5}{x-5}$ D) $6x^2 + 8x + 6 + \frac{2}{x-5}$</p>	<p>8) $(x^3 - 7x^2 + 17x - 9) \div (x - 2)$</p> <p>A) $x^2 - 5x + 7$ B) $x^2 + 5x + 8 + \frac{5}{x-2}$ C) $x^2 - 5x + 4 + \frac{6}{x-2}$ D) $x^2 - 5x + 7 + \frac{5}{x-2}$</p>
<p>Factor Each Completely</p> <p>9) $x^4 - 4x^2 - 32$</p> <p>A) $(x^2 + 8)(x - 2)(x + 2)$ B) $(x^2 + 4)(x^2 + 8)$ C) $(x^2 - 2)(x - 4)(x + 4)$ D) $x^2 - 8)(x^2 + 4)$</p>	<p>10) $4r^2 - 25$</p> <p>A) $(r + 1)^2$ B) $(2r + 3)(2r - 3)$ C) $(3r + 1)^2$ D) $(2r + 5)(2r - 5)$</p>

<p>Factor Each Completely</p> <p>11) $8n^3 + 3n^2 - 64n - 24$ A) $8(n^2 + 8)(n - 1)$ B) $8(n - 1)(n^2 - 3)$ C) $(n^2 - 8)(8n + 3)$ D) $8(n^2 + 3)(n + 1)$</p>	<p>12) $64u^3 + 125$ A) $(4u + 5)(16u^2 - 20u + 25)$ B) $(4u + 5)^3$ C) $(n^2 - 8)(8n + 3)$ D) $8(n^2 + 3)(n + 1)$</p>
<p>Find all zeros.</p> <p>13) $f(x) = 5x^3 - 21x^2 - 21x + 5$ A) $\left\{5, \frac{1}{5}, -1\right\}$ B) $\left\{-7, \frac{1}{5}, -1\right\}$ C) $\left\{5, \frac{-3}{5}, -1\right\}$ D) $\left\{5, \frac{1}{5}, -3\right\}$</p>	<p>14) $f(x) = 5x^3 - 4x^2 + 25x - 20$ A) $\left\{\frac{4}{5}, \frac{i\sqrt{15}}{3}, \frac{-i\sqrt{15}}{3}\right\}$ B) $\{-1, i\sqrt{5}, -i\sqrt{5}\}$ C) $\{1, i\sqrt{5}, -i\sqrt{5}\}$ D) $\left\{\frac{4}{5}, i\sqrt{5}, -i\sqrt{5}\right\}$</p>
<p>Simplify each expression.</p> <p>15) $\frac{r-3}{6r^2+18r} + \frac{r-6}{6r^2+18r}$ A) $\frac{3r-4}{45r^2-27r}$ B) $\frac{3r-2}{45r^2-27r}$ C) $\frac{2r-9}{6r^2+18r}$ D) $\frac{r-4}{45r^2-27r}$</p>	<p>16) $\frac{x-5}{4x+10} - \frac{3x}{2x}$ A) $\frac{3x}{2x(x+2)}$ B) $\frac{-5x-20}{2(2x+5)}$ C) $\frac{x}{x+2}$ D) $\frac{8-3x^2-6x}{4(x+2)}$</p>
<p>17) $\frac{a^2-9a+18}{9a^2} \cdot \frac{5}{5a-15}$ A) $\frac{a+6}{5a}$ B) $\frac{a-6}{9a^2}$ C) $\frac{4}{9}$ D) $\frac{a-3}{a-9}$</p>	<p>18) $\frac{1}{x+3} \div \frac{x+6}{x^2-4x-60}$ A) $\frac{1}{x+8}$ B) $\frac{x-10}{x+3}$ C) $\frac{2}{x}$ D) $\frac{x-7}{x+7}$</p>
<p>Solve Each equation. Remember to check for extraneous solutions.</p> <p>19) $\frac{2}{3} + \frac{1}{a+2} = \frac{4}{3a+6}$ A) $\{1\}$ B) $\left\{\frac{3}{2}\right\}$ C) $\left\{\frac{-3}{2}\right\}$ D) $\{-5\}$</p>	<p>20) $\sqrt{7k} = \sqrt{3k+4}$ A) $\{8, -10\}$ B) $\{-1\}$ C) $\{-6\}$ D) $\{1\}$</p>