**POLYNOMIALS AND FACTORING**

**OPERATIONS ON POLYNOMIALS**

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| --- | --- |
| 1. $3x^{2}+5x^{2} $
 | 1. $\left(5x^{3}y-4x^{2}y-7y\right)+(2x^{3}y+6x^{2}y-4y-5)$
 |
| 1. $\left(4x^{2}\right)\left(-5x^{2}\right)$
 | 1. $\left(3x^{5}y^{2}-4x^{3}y\right)-2x^{5}y^{2}-3x^{3}y$
 |
| 1. $-7x+3x-4x^{2}+3x$
 | 1. $4x^{3}(6x^{5}-2x^{2}+3)$
 |
| 1. $\left(20x^{3}-5x^{2}\right)-\left(7x^{3}-2x^{2}\right) $
 | 1. $5x^{3}y^{4}\left(2x^{7}y-6x^{4}y^{3}-3\right) $
 |
| 1. $(8x^{2}y^{3})(-4x^{2}y^{3})$
 | 1. $\left(3x+7\right)\left(x^{2}+4x+5\right)$
 |
| 1. $(14x^{2})∕(-7x)$
 | 1. $\left(7x+2\right)\left(4x+5\right) $
 |
| 1. $\frac{\left(15xz^{3}-30x^{2}y^{4}\right)}{(3xyz)}$
 | 1. $\frac{\left(5x-3\right)^{6}}{\left(5x-3\right)^{4}}$
 |

1. $(3x-7)(x^{2}+4x+5)$
2. $\left(5x^{3}y-4x^{2}y-7y\right)+\left(2x^{3}y+6x^{2}y-4y-5\right)$
3. $(13y^{5}+9y^{4}-5y^{2}+3y+6)-(-9y^{5}-7y^{3}+8y^{2}+11)$
4. $\left(7x^{3}-8x^{2}+9x-6\right)-\left(2x^{3}-6x^{2}-3x+9\right)$
5. $\left(7xy^{2}-10y\right)\left(7xy^{2}+10y\right)$
6. $ (7x+5+4y)(7x+5-4y)$
7. $\left(3x^{9}-2x\right)\left(4x-1\right)$
8. $\left(\frac{-2a^{3}b^{2}c^{0}}{3a^{2}b^{3}c^{7}}\right)^{-2}$
9. $(x+3)(x+2)$
10. $(5x^{3}-6)(4x^{3}-x)$

**FACTORING**

Factor each of the following.

|  |  |
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| 1. $12x^{5}y^{4}-4x^{4}y^{3}+2x^{3}y^{2}$
 | 1. $5x^{2}-20x$
 |
| 1. $2\left(x-7\right)+9x(x-7)$
 | 1. $5y\left(a-b\right)-(a-b)$
 |
| 1. $x^{3}-5x^{2}+3x-15 $
 | 1. $x^{2}-8x+16-y^{2}$
 |
| 1. $x^{2}+5x=-4$
 | 1. $x^{2}-10x+9$
 |
| 1. $4x^{2}+16x-9$

 **11)** 8x2 + 14x - 15 | **10)**3x2 + 9x – 301. -4x2 - 42x - 54
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