Semester Exam Review

Simplify the polynomial expression. Write your answers in standard form. What is the degree of the polynomial?

1. (15x2 – 3x + 11) + (2x3 – x2 + 6x + 1)
2. (2y2 – 5y + 3) + (y2 – 2y – 5)
3. (3x2 – 5x) – (-4 + x2 + x)
4. (x2 – 3x + 4) – (3x + x3 – 4)
5. (3x – 2)(3x + 1)
6. (5x3 + x2 – 9x)(x + 2)
7. (30 + x3 + x2)(x – 15 – x2)
8. (2x – 2)3
9. 6y2 + 13y – 8

 2y – 1

1. x3 + 2x2 – x – 2

 x + 2

1. 2x3 – 13x2 + 19x – 5

 2x – 3

1. -5x – x3 – 2 + 5x2

x – 2

Factor the polynomials.

1. 8x3 – 512
2. 24*x*4 − 40*x*3 + 81*x* – 135
3. 2x2 + 28x + 96
4. 3*x*3 − 4*x*2 + 15*x* − 20

Simplify the polynomial expression.

1. $\frac{2x^{2}-5x-3}{2x^{2}-7x-4}$
2. $\frac{x^{3}+x^{2}-2x}{x^{4}+4x^{3}-5x^{2}}$
3. $\frac{x^{4}+8x}{x^{4}- 2x^{3}+ 4x^{2}}$
4. $\frac{x^{5}-3x^{3}-4x}{x^{4}+2x^{3}+x^{2}+2x}$