1. $(9x^2 - 18x) \div (3x)$

2. $(5x^4 + x^3 - 4x^2) \div (2x^2)$

3. $(2x^2 + 10x + 8) \div (2x + 2)$

4. $(x^3 + 2x^2 - x - 2) \div (x + 2)$

5. $(x^4 - 3x^3 - 7x - 14) \div (x - 4)$

6. $(6x^2 - 7x - 5) \div (3x - 5)$

7. $(2x^3 + 15x^2 + 11x - 3) \div (2x + 1)$

8. $(4x^3 - 6x^2 - 18x + 4) \div (2x + 3)$

9. $(27x^3 - 8) \div (3x - 2)$

10. $(12x^4 - x^2 - 18) \div (3x^2 - 4)$

11. $(x^4 + 5x^3 + 10x^2 + 11x + 3)$
    $\div (x^2 + 2x + 3)$

12. $(x^3 - 1) \div (x^2 + x + 1)$

1.

$$3x \overline{\smash{)}\,9x^2 - 18x} \quad \overline{|3x - 6|}$$

$$\underline{-9x^2} \quad \downarrow$$

$$-18x$$

$$\underline{-18x}$$

$$0$$

2. $\boxed{\frac{5}{2}x^2 + \frac{1}{2}x - 2}$

$$2x^2 \overline{\smash{)}\,5x^4 + x^3 - 4x^2}$$

$$\underline{-5x^4}$$

$$0 + x^3$$

$$\underline{-x^3}$$

$$0 - 4x^2$$

$$\underline{+4x^2}$$

$$0$$

3. $\boxed{x + 4}$

$$2x+2 \overline{\smash{)}\,2x^2 + 10x + 8}$$

$$\underline{-2x^2 - 2x}$$

$$8x + 8$$

$$\underline{-8x - 8}$$

$$0$$

4. $\boxed{x^2 - 1}$

$$x+2 \overline{\smash{)}\,x^3 + 2x^2 - x - 2}$$

$$\underline{-x^3 - 2x^2}$$

$$0 - x - 2$$

$$\underline{+ x + 2}$$

$$0$$

5. $\boxed{x^3 + x^2 + 4x + 9 + \frac{22}{x-4}}$

$$x-4 \overline{\smash{)}\,x^4 - 3x^3 + 0x^2 - 7x - 14}$$

$$\underline{-x^4 + 4x^3}$$

$$x^3 + 0x^2$$

$$\underline{-x^3 + 4x^2}$$

$$4x^2 - 7x$$

$$\underline{-4x^2 + 16x}$$

$$9x - 14$$

$$\underline{-9x + 36}$$

$$22$$

6. $\boxed{2x + 1}$

$$3x-5 \overline{\smash{)}\,6x^2 - 7x - 5}$$

$$\underline{-6x^2 + 10x}$$

$$3x - 5$$

$$\underline{-3x + 5}$$

$$0$$

7. $\boxed{x^2 + 7x + 2 - \frac{5}{2x+1}}$

$$2x+1 \overline{\smash{)}\,2x^3 + 15x^2 + 11x - 3}$$

$$\underline{-2x^3 \mp x^2}$$

$$14x^2 + 11x$$

$$\underline{-14x^2 - 7x}$$

$$4x - 3$$

$$\underline{-4x - 2}$$

$$-5$$

8.

$$2x^2 - 6x + \frac{4}{(2x+3)}$$

$$2x+3 \overline{\smash{\big)}\ 4x^3 - 6x^2 - 18x + 4}$$

$$\underline{-4x^3 - 6x^2}$$

$$-12x^2 - 18x - 4$$

$$\underline{+12x^2 + 18x}$$

$$0 + 4$$

9.

$$9x^2 + 6x + 4$$

$$3x-2 \overline{\smash{\big)}\ 27x^3 + 0x^2 + 0x - 8}$$

$$\underline{-27x^3 + 18x^2}$$

$$18x^2 + 0x$$

$$\underline{-18x^2 + 12x}$$

$$12x - 8$$

$$\underline{-12x + 8}$$

$$0$$

10.

$$4x^2 + 5 + \frac{2}{3x^2-4}$$

$$3x^2-4 \overline{\smash{\big)}\ 12x^4 + 0x^3 - x^2 + 0x - 18}$$

$$\underline{-12x^4 \quad\;\; + 16x^2}$$

$$15x^2 + 0x - 18$$

$$\underline{-15x^2 \quad + 20}$$

$$2$$

11.

$$x^2 + 3x + 1$$

$$x^2+2x+3 \overline{\smash{\big)}\ x^4 + 5x^3 + 10x^2 + 11x + 3}$$

$$\underline{-x^4 - 2x^3 - 3x^2}$$

$$3x^3 + 7x^2 + 11x$$

$$\underline{-3x^3 - 6x^2 - 9x}$$

$$x^2 + 2x + 3$$

$$\underline{-x^2 - 2x - 3}$$

$$0$$

12.

$$x - 1$$

$$x^2+x+1 \overline{\smash{\big)}\ x^3 + 0x^2 + 0x - 1}$$

$$\underline{-x^3 - x^2 - x}$$

$$-x^2 - x - 1$$

$$\underline{+x^2 + x + 1}$$

$$0$$