



Expand each problem using the box method.

1)  $(-5x^2 + -1x + 4)(-6x^2 + -1x)$

2)  $(-9x^2 + 9x)(-1x^2 + 9x + -4)$

3)  $(9x^2 + 3x + -3)(-4x^2 + 6x + -2)$

4)  $(5x^2 + -6x + -3)(-4x^2 + -2x)$

5)  $(8x^2 + -7x + 9)(-4x^2 + 6x)$

6)  $(-8x^2 + -9x)(-1x^2 + 8x)$

7)  $(5x^2 + -5x + -4)(-8x^2 + 7x + -3)$

8)  $(-6x^2 + -8x)(-5x^2 + -3x)$

9)  $(6x^2 + -5x + 2)(5x^2 + -9x + 3)$

10)  $(8x^2 + -6x + 9)(7x^2 + 3x)$

**Answers**

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

7. \_\_\_\_\_

8. \_\_\_\_\_

9. \_\_\_\_\_

10. \_\_\_\_\_



Expand each problem using the box method.

1)  $(-5x^2 + -1x + 4)(-6x^2 + -1x)$

|         |         |        |          |
|---------|---------|--------|----------|
|         | $-5x^2$ | $-1x$  | $4$      |
| $-6x^2$ | $30x^4$ | $6x^3$ | $-24x^2$ |
| $-1x$   | $5x^3$  | $1x^2$ | $-4x$    |

2)  $(-9x^2 + 9x)(-1x^2 + 9x + -4)$

|         |          |         |
|---------|----------|---------|
|         | $-9x^2$  | $9x$    |
| $-1x^2$ | $9x^4$   | $-9x^3$ |
| $9x$    | $-81x^3$ | $81x^2$ |
| $-4$    | $36x^2$  | $-36x$  |

3)  $(9x^2 + 3x + -3)(-4x^2 + 6x + -2)$

|         |          |          |         |
|---------|----------|----------|---------|
|         | $9x^2$   | $3x$     | $-3$    |
| $-4x^2$ | $-36x^4$ | $-12x^3$ | $12x^2$ |
| $6x$    | $54x^3$  | $18x^2$  | $-18x$  |
| $-2$    | $-18x^2$ | $-6x$    | $6$     |

4)  $(5x^2 + -6x + -3)(-4x^2 + -2x)$

|         |          |         |         |
|---------|----------|---------|---------|
|         | $5x^2$   | $-6x$   | $-3$    |
| $-4x^2$ | $-20x^4$ | $24x^3$ | $12x^2$ |
| $-2x$   | $-10x^3$ | $12x^2$ | $6x$    |

5)  $(8x^2 + -7x + 9)(-4x^2 + 6x)$

|         |          |          |          |
|---------|----------|----------|----------|
|         | $8x^2$   | $-7x$    | $9$      |
| $-4x^2$ | $-32x^4$ | $28x^3$  | $-36x^2$ |
| $6x$    | $48x^3$  | $-42x^2$ | $54x$    |

6)  $(-8x^2 + -9x)(-1x^2 + 8x)$

|         |          |          |
|---------|----------|----------|
|         | $-8x^2$  | $-9x$    |
| $-1x^2$ | $8x^4$   | $9x^3$   |
| $8x$    | $-64x^3$ | $-72x^2$ |

7)  $(5x^2 + -5x + -4)(-8x^2 + 7x + -3)$

|         |          |          |         |
|---------|----------|----------|---------|
|         | $5x^2$   | $-5x$    | $-4$    |
| $-8x^2$ | $-40x^4$ | $40x^3$  | $32x^2$ |
| $7x$    | $35x^3$  | $-35x^2$ | $-28x$  |
| $-3$    | $-15x^2$ | $15x$    | $12$    |

8)  $(-6x^2 + -8x)(-5x^2 + -3x)$

|         |         |         |
|---------|---------|---------|
|         | $-6x^2$ | $-8x$   |
| $-5x^2$ | $30x^4$ | $40x^3$ |
| $-3x$   | $18x^3$ | $24x^2$ |

9)  $(6x^2 + -5x + 2)(5x^2 + -9x + 3)$

|        |          |          |         |
|--------|----------|----------|---------|
|        | $6x^2$   | $-5x$    | $2$     |
| $5x^2$ | $30x^4$  | $-25x^3$ | $10x^2$ |
| $-9x$  | $-54x^3$ | $45x^2$  | $-18x$  |
| $3$    | $18x^2$  | $-15x$   | $6$     |

10)  $(8x^2 + -6x + 9)(7x^2 + 3x)$

|        |         |          |         |
|--------|---------|----------|---------|
|        | $8x^2$  | $-6x$    | $9$     |
| $7x^2$ | $56x^4$ | $-42x^3$ | $63x^2$ |
| $3x$   | $24x^3$ | $-18x^2$ | $27x$   |

**Answers**

1.  $30x^4 + 11x^3 - 23x^2 - 4x$

2.  $9x^4 - 90x^3 + 117x^2 - 36x$

3.  $-36x^4 + 42x^3 + 12x^2 - 24x + 6$

4.  $-20x^4 + 14x^3 + 24x^2 + 6x$

5.  $-32x^4 + 76x^3 - 78x^2 + 54x$

6.  $8x^4 - 55x^3 - 72x^2$

7.  $-40x^4 + 75x^3 - 18x^2 - 13x + 12$

8.  $30x^4 + 58x^3 + 24x^2$

9.  $30x^4 - 79x^3 + 73x^2 - 33x + 6$

10.  $56x^4 - 18x^3 + 45x^2 + 27x$



Expand each problem using the box method.

1)  $(-5x^2+9x+4)(-3x^2+7x+1)$

2)  $(-9x^2+-2x+-7)(-9x^2+5x+8)$

3)  $(-8x^2+7x+7)(-6x^2+7x)$

4)  $(9x^2+4x)(-6x^2+-6x+-2)$

5)  $(-3x^2+-1x+-1)(8x^2+-2x+3)$

6)  $(3x^2+9x+-9)(-2x^2+-4x+9)$

7)  $(1x^2+-7x+-1)(1x^2+-9x)$

8)  $(-3x^2+9x+-5)(-5x^2+-7x+1)$

9)  $(7x^2+-6x)(-9x^2+-2x)$

10)  $(2x^2+-3x+-8)(-4x^2+5x)$

**Answers**

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

7. \_\_\_\_\_

8. \_\_\_\_\_

9. \_\_\_\_\_

10. \_\_\_\_\_



Expand each problem using the box method.

1)  $(-5x^2+9x+4)(-3x^2+7x+1)$

|         |          |          |          |
|---------|----------|----------|----------|
|         | $-5x^2$  | $9x$     | $4$      |
| $-3x^2$ | $15x^4$  | $-27x^3$ | $-12x^2$ |
| $7x$    | $-35x^3$ | $63x^2$  | $28x$    |
| $1$     | $-5x^2$  | $9x$     | $4$      |

2)  $(-9x^2+-2x+-7)(-9x^2+5x+8)$

|         |          |          |         |
|---------|----------|----------|---------|
|         | $-9x^2$  | $-2x$    | $-7$    |
| $-9x^2$ | $81x^4$  | $18x^3$  | $63x^2$ |
| $5x$    | $-45x^3$ | $-10x^2$ | $-35x$  |
| $8$     | $-72x^2$ | $-16x$   | $-56$   |

3)  $(-8x^2+7x+7)(-6x^2+7x)$

|         |          |          |          |
|---------|----------|----------|----------|
|         | $-8x^2$  | $7x$     | $7$      |
| $-6x^2$ | $48x^4$  | $-42x^3$ | $-42x^2$ |
| $7x$    | $-56x^3$ | $49x^2$  | $49x$    |

4)  $(9x^2+4x)(-6x^2+-6x+-2)$

|         |          |          |
|---------|----------|----------|
|         | $9x^2$   | $4x$     |
| $-6x^2$ | $-54x^4$ | $-24x^3$ |
| $-6x$   | $-54x^3$ | $-24x^2$ |
| $-2$    | $-18x^2$ | $-8x$    |

5)  $(-3x^2+-1x+-1)(8x^2+-2x+3)$

|        |          |         |         |
|--------|----------|---------|---------|
|        | $-3x^2$  | $-1x$   | $-1$    |
| $8x^2$ | $-24x^4$ | $-8x^3$ | $-8x^2$ |
| $-2x$  | $6x^3$   | $2x^2$  | $2x$    |
| $3$    | $-9x^2$  | $-3x$   | $-3$    |

6)  $(3x^2+9x+-9)(-2x^2+-4x+9)$

|         |          |          |         |
|---------|----------|----------|---------|
|         | $3x^2$   | $9x$     | $-9$    |
| $-2x^2$ | $-6x^4$  | $-18x^3$ | $18x^2$ |
| $-4x$   | $-12x^3$ | $-36x^2$ | $36x$   |
| $9$     | $27x^2$  | $81x$    | $-81$   |

7)  $(1x^2+-7x+-1)(1x^2+-9x)$

|        |         |         |         |
|--------|---------|---------|---------|
|        | $1x^2$  | $-7x$   | $-1$    |
| $1x^2$ | $1x^4$  | $-7x^3$ | $-1x^2$ |
| $-9x$  | $-9x^3$ | $63x^2$ | $9x$    |

8)  $(-3x^2+9x+-5)(-5x^2+-7x+1)$

|         |         |          |         |
|---------|---------|----------|---------|
|         | $-3x^2$ | $9x$     | $-5$    |
| $-5x^2$ | $15x^4$ | $-45x^3$ | $25x^2$ |
| $-7x$   | $21x^3$ | $-63x^2$ | $35x$   |
| $1$     | $-3x^2$ | $9x$     | $-5$    |

9)  $(7x^2+-6x)(-9x^2+-2x)$

|         |          |         |
|---------|----------|---------|
|         | $7x^2$   | $-6x$   |
| $-9x^2$ | $-63x^4$ | $54x^3$ |
| $-2x$   | $-14x^3$ | $12x^2$ |

10)  $(2x^2+-3x+-8)(-4x^2+5x)$

|         |         |          |         |
|---------|---------|----------|---------|
|         | $2x^2$  | $-3x$    | $-8$    |
| $-4x^2$ | $-8x^4$ | $12x^3$  | $32x^2$ |
| $5x$    | $10x^3$ | $-15x^2$ | $-40x$  |

Answers

1.  $15x^4-62x^3+46x^2+37x+4$

2.  $81x^4-27x^3-19x^2-51x-56$

3.  $48x^4-98x^3+7x^2+49x$

4.  $-54x^4-78x^3-42x^2-8x$

5.  $-24x^4-2x^3-15x^2-1x-3$

6.  $-6x^4-30x^3+9x^2+117x-81$

7.  $x^4-16x^3+62x^2+9x$

8.  $15x^4-24x^3-41x^2+44x-5$

9.  $-63x^4+40x^3+12x^2$

10.  $-8x^4+22x^3+17x^2-40x$



Expand each problem using the box method.

1)  $(-7x^2 + -3x)(3x^2 + 3x)$

2)  $(6x^2 + 9x + -9)(-3x^2 + 6x)$

3)  $(-7x^2 + -9x + 2)(6x^2 + 9x + -4)$

4)  $(-9x^2 + -8x)(2x^2 + 2x)$

5)  $(4x^2 + 8x)(-7x^2 + -6x)$

6)  $(-8x^2 + 4x + 4)(7x^2 + 5x)$

7)  $(5x^2 + 2x + 3)(-8x^2 + 4x)$

8)  $(5x^2 + -6x)(-3x^2 + 2x)$

9)  $(-8x^2 + 6x + -2)(7x^2 + 1x + -2)$

10)  $(-9x^2 + 3x + -7)(-8x^2 + 8x)$

**Answers**

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

7. \_\_\_\_\_

8. \_\_\_\_\_

9. \_\_\_\_\_

10. \_\_\_\_\_



Expand each problem using the box method.

1)  $(-7x^2 + -3x)(3x^2 + 3x)$

|        |          |         |
|--------|----------|---------|
|        | $-7x^2$  | $-3x$   |
| $3x^2$ | $-21x^4$ | $-9x^3$ |
| $3x$   | $-21x^3$ | $-9x^2$ |

2)  $(6x^2 + 9x + -9)(-3x^2 + 6x)$

|         |          |          |         |
|---------|----------|----------|---------|
|         | $6x^2$   | $9x$     | $-9$    |
| $-3x^2$ | $-18x^4$ | $-27x^3$ | $27x^2$ |
| $6x$    | $36x^3$  | $54x^2$  | $-54x$  |

3)  $(-7x^2 + -9x + 2)(6x^2 + 9x + -4)$

|        |          |          |         |
|--------|----------|----------|---------|
|        | $-7x^2$  | $-9x$    | $2$     |
| $6x^2$ | $-42x^4$ | $-54x^3$ | $12x^2$ |
| $9x$   | $-63x^3$ | $-81x^2$ | $18x$   |
| $-4$   | $28x^2$  | $36x$    | $-8$    |

4)  $(-9x^2 + -8x)(2x^2 + 2x)$

|        |          |          |
|--------|----------|----------|
|        | $-9x^2$  | $-8x$    |
| $2x^2$ | $-18x^4$ | $-16x^3$ |
| $2x$   | $-18x^3$ | $-16x^2$ |

5)  $(4x^2 + 8x)(-7x^2 + -6x)$

|         |          |          |
|---------|----------|----------|
|         | $4x^2$   | $8x$     |
| $-7x^2$ | $-28x^4$ | $-56x^3$ |
| $-6x$   | $-24x^3$ | $-48x^2$ |

6)  $(-8x^2 + 4x + 4)(7x^2 + 5x)$

|        |          |         |         |
|--------|----------|---------|---------|
|        | $-8x^2$  | $4x$    | $4$     |
| $7x^2$ | $-56x^4$ | $28x^3$ | $28x^2$ |
| $5x$   | $-40x^3$ | $20x^2$ | $20x$   |

7)  $(5x^2 + 2x + 3)(-8x^2 + 4x)$

|         |          |          |          |
|---------|----------|----------|----------|
|         | $5x^2$   | $2x$     | $3$      |
| $-8x^2$ | $-40x^4$ | $-16x^3$ | $-24x^2$ |
| $4x$    | $20x^3$  | $8x^2$   | $12x$    |

8)  $(5x^2 + -6x)(-3x^2 + 2x)$

|         |          |          |
|---------|----------|----------|
|         | $5x^2$   | $-6x$    |
| $-3x^2$ | $-15x^4$ | $18x^3$  |
| $2x$    | $10x^3$  | $-12x^2$ |

9)  $(-8x^2 + 6x + -2)(7x^2 + 1x + -2)$

|        |          |         |          |
|--------|----------|---------|----------|
|        | $-8x^2$  | $6x$    | $-2$     |
| $7x^2$ | $-56x^4$ | $42x^3$ | $-14x^2$ |
| $1x$   | $-8x^3$  | $6x^2$  | $-2x$    |
| $-2$   | $16x^2$  | $-12x$  | $4$      |

10)  $(-9x^2 + 3x + -7)(-8x^2 + 8x)$

|         |          |          |         |
|---------|----------|----------|---------|
|         | $-9x^2$  | $3x$     | $-7$    |
| $-8x^2$ | $72x^4$  | $-24x^3$ | $56x^2$ |
| $8x$    | $-72x^3$ | $24x^2$  | $-56x$  |

**Answers**

1.  $-21x^4 - 30x^3 - 9x^2$

2.  $-18x^4 + 9x^3 + 81x^2 - 54x$

3.  $-42x^4 - 117x^3 - 41x^2 + 54x - 8$

4.  $-18x^4 - 34x^3 - 16x^2$

5.  $-28x^4 - 80x^3 - 48x^2$

6.  $-56x^4 - 12x^3 + 48x^2 + 20x$

7.  $-40x^4 + 4x^3 - 16x^2 + 12x$

8.  $-15x^4 + 28x^3 - 12x^2$

9.  $-56x^4 + 34x^3 + 8x^2 - 14x + 4$

10.  $72x^4 - 96x^3 + 80x^2 - 56x$



Expand each problem using the box method.

1)  $(1x^2+7x)(-2x^2-8x)$

2)  $(5x^2+4x)(8x^2-6x)$

3)  $(-6x^2+9x+9)(8x^2+8x-8)$

4)  $(9x^2+8x)(-1x^2+8x-1)$

5)  $(-3x^2+3x-7)(-6x^2+8x+2)$

6)  $(7x^2-3x-2)(9x^2+1x)$

7)  $(-6x^2-6x)(-8x^2-2x-1)$

8)  $(7x^2-9x-8)(2x^2+4x)$

9)  $(-6x^2-5x)(-9x^2+1x+8)$

10)  $(-1x^2+6x+4)(8x^2+9x+8)$

**Answers**

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

7. \_\_\_\_\_

8. \_\_\_\_\_

9. \_\_\_\_\_

10. \_\_\_\_\_



Expand each problem using the box method.

1)  $(1x^2+7x)(-2x^2+-8x)$

|         |         |          |
|---------|---------|----------|
|         | $1x^2$  | $7x$     |
| $-2x^2$ | $-2x^4$ | $-14x^3$ |
| $-8x$   | $-8x^3$ | $-56x^2$ |

2)  $(5x^2+4x)(8x^2+-6x)$

|        |          |          |
|--------|----------|----------|
|        | $5x^2$   | $4x$     |
| $8x^2$ | $40x^4$  | $32x^3$  |
| $-6x$  | $-30x^3$ | $-24x^2$ |

3)  $(-6x^2+9x+9)(8x^2+8x+-8)$

|        |          |         |         |
|--------|----------|---------|---------|
|        | $-6x^2$  | $9x$    | $9$     |
| $8x^2$ | $-48x^4$ | $72x^3$ | $72x^2$ |
| $8x$   | $-48x^3$ | $72x^2$ | $72x$   |
| $-8$   | $48x^2$  | $-72x$  | $-72$   |

4)  $(9x^2+8x)(-1x^2+8x+-1)$

|         |         |         |
|---------|---------|---------|
|         | $9x^2$  | $8x$    |
| $-1x^2$ | $-9x^4$ | $-8x^3$ |
| $8x$    | $72x^3$ | $64x^2$ |
| $-1$    | $-9x^2$ | $-8x$   |

5)  $(-3x^2+3x+-7)(-6x^2+8x+2)$

|         |          |          |         |
|---------|----------|----------|---------|
|         | $-3x^2$  | $3x$     | $-7$    |
| $-6x^2$ | $18x^4$  | $-18x^3$ | $42x^2$ |
| $8x$    | $-24x^3$ | $24x^2$  | $-56x$  |
| $2$     | $-6x^2$  | $6x$     | $-14$   |

6)  $(7x^2+-3x+-2)(9x^2+1x)$

|        |         |          |          |
|--------|---------|----------|----------|
|        | $7x^2$  | $-3x$    | $-2$     |
| $9x^2$ | $63x^4$ | $-27x^3$ | $-18x^2$ |
| $1x$   | $7x^3$  | $-3x^2$  | $-2x$    |

7)  $(-6x^2+-6x)(-8x^2+-2x+-1)$

|         |         |         |
|---------|---------|---------|
|         | $-6x^2$ | $-6x$   |
| $-8x^2$ | $48x^4$ | $48x^3$ |
| $-2x$   | $12x^3$ | $12x^2$ |
| $-1$    | $6x^2$  | $6x$    |

8)  $(7x^2+-9x+-8)(2x^2+4x)$

|        |         |          |          |
|--------|---------|----------|----------|
|        | $7x^2$  | $-9x$    | $-8$     |
| $2x^2$ | $14x^4$ | $-18x^3$ | $-16x^2$ |
| $4x$   | $28x^3$ | $-36x^2$ | $-32x$   |

9)  $(-6x^2+-5x)(-9x^2+1x+8)$

|         |          |         |
|---------|----------|---------|
|         | $-6x^2$  | $-5x$   |
| $-9x^2$ | $54x^4$  | $45x^3$ |
| $1x$    | $-6x^3$  | $-5x^2$ |
| $8$     | $-48x^2$ | $-40x$  |

10)  $(-1x^2+6x+4)(8x^2+9x+8)$

|        |         |         |         |
|--------|---------|---------|---------|
|        | $-1x^2$ | $6x$    | $4$     |
| $8x^2$ | $-8x^4$ | $48x^3$ | $32x^2$ |
| $9x$   | $-9x^3$ | $54x^2$ | $36x$   |
| $8$    | $-8x^2$ | $48x$   | $32$    |

**Answers**

1.  $-2x^4-22x^3-56x^2$

2.  $40x^4+2x^3-24x^2$

3.  $-48x^4+24x^3+192x^2-72x$

4.  $-9x^4+64x^3+55x^2-8x$

5.  $18x^4-42x^3+60x^2-50x-14$

6.  $63x^4-20x^3-21x^2-2x$

7.  $48x^4+60x^3+18x^2+6x$

8.  $14x^4+10x^3-52x^2-32x$

9.  $54x^4+39x^3-53x^2-40x$

10.  $-8x^4+39x^3+78x^2+84x+32$



Expand each problem using the box method.

1)  $(5x^2+1x-7)(1x^2-2x+9)$

2)  $(1x^2-9x)(1x^2+2x)$

3)  $(-4x^2-8x)(9x^2+6x-6)$

4)  $(-6x^2-1x)(8x^2+3x+1)$

5)  $(-4x^2-9x+8)(-4x^2-9x-6)$

6)  $(-4x^2-8x)(7x^2-3x+7)$

7)  $(-9x^2-6x+3)(-4x^2-4x)$

8)  $(-8x^2+4x)(8x^2+8x)$

9)  $(5x^2-9x+5)(-2x^2+5x)$

10)  $(-2x^2-8x)(4x^2+3x)$

**Answers**

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

7. \_\_\_\_\_

8. \_\_\_\_\_

9. \_\_\_\_\_

10. \_\_\_\_\_



Expand each problem using the box method.

1)  $(5x^2+1x-7)(1x^2-2x+9)$

|        |          |         |         |
|--------|----------|---------|---------|
|        | $5x^2$   | $1x$    | $-7$    |
| $1x^2$ | $5x^4$   | $1x^3$  | $-7x^2$ |
| $-2x$  | $-10x^3$ | $-2x^2$ | $14x$   |
| $9$    | $45x^2$  | $9x$    | $-63$   |

2)  $(1x^2-9x)(1x^2+2x)$

|        |        |          |
|--------|--------|----------|
|        | $1x^2$ | $-9x$    |
| $1x^2$ | $1x^4$ | $-9x^3$  |
| $2x$   | $2x^3$ | $-18x^2$ |

3)  $(-4x^2-8x)(9x^2+6x-6)$

|        |          |          |
|--------|----------|----------|
|        | $-4x^2$  | $-8x$    |
| $9x^2$ | $-36x^4$ | $-72x^3$ |
| $6x$   | $-24x^3$ | $-48x^2$ |
| $-6$   | $24x^2$  | $48x$    |

4)  $(-6x^2-1x)(8x^2+3x+1)$

|        |          |         |
|--------|----------|---------|
|        | $-6x^2$  | $-1x$   |
| $8x^2$ | $-48x^4$ | $-8x^3$ |
| $3x$   | $-18x^3$ | $-3x^2$ |
| $1$    | $-6x^2$  | $-1x$   |

5)  $(-4x^2-9x+8)(-4x^2-9x-6)$

|         |         |         |          |
|---------|---------|---------|----------|
|         | $-4x^2$ | $-9x$   | $8$      |
| $-4x^2$ | $16x^4$ | $36x^3$ | $-32x^2$ |
| $-9x$   | $36x^3$ | $81x^2$ | $-72x$   |
| $-6$    | $24x^2$ | $54x$   | $-48$    |

6)  $(-4x^2-8x)(7x^2-3x+7)$

|        |          |          |
|--------|----------|----------|
|        | $-4x^2$  | $-8x$    |
| $7x^2$ | $-28x^4$ | $-56x^3$ |
| $-3x$  | $12x^3$  | $24x^2$  |
| $7$    | $-28x^2$ | $-56x$   |

7)  $(-9x^2-6x+3)(-4x^2-4x)$

|         |         |         |          |
|---------|---------|---------|----------|
|         | $-9x^2$ | $-6x$   | $3$      |
| $-4x^2$ | $36x^4$ | $24x^3$ | $-12x^2$ |
| $-4x$   | $36x^3$ | $24x^2$ | $-12x$   |

8)  $(-8x^2+4x)(8x^2+8x)$

|        |          |         |
|--------|----------|---------|
|        | $-8x^2$  | $4x$    |
| $8x^2$ | $-64x^4$ | $32x^3$ |
| $8x$   | $-64x^3$ | $32x^2$ |

9)  $(5x^2-9x+5)(-2x^2+5x)$

|         |          |          |          |
|---------|----------|----------|----------|
|         | $5x^2$   | $-9x$    | $5$      |
| $-2x^2$ | $-10x^4$ | $18x^3$  | $-10x^2$ |
| $5x$    | $25x^3$  | $-45x^2$ | $25x$    |

10)  $(-2x^2-8x)(4x^2+3x)$

|        |         |          |
|--------|---------|----------|
|        | $-2x^2$ | $-8x$    |
| $4x^2$ | $-8x^4$ | $-32x^3$ |
| $3x$   | $-6x^3$ | $-24x^2$ |

Answers

1.  $5x^4-9x^3+36x^2+23x-63$

2.  $x^4-7x^3-18x^2$

3.  $-36x^4-96x^3-24x^2+48x$

4.  $-48x^4-26x^3-9x^2-1x$

5.  $16x^4+72x^3+73x^2-18x-48$

6.  $-28x^4-44x^3-4x^2-56x$

7.  $36x^4+60x^3+12x^2-12x$

8.  $-64x^4-32x^3+32x^2$

9.  $-10x^4+43x^3-55x^2+25x$

10.  $-8x^4-38x^3-24x^2$



Expand each problem using the box method.

1)  $(-1x^2 + -1x)(-7x^2 + 2x + -5)$

2)  $(-7x^2 + -2x + -4)(5x^2 + -9x)$

3)  $(-8x^2 + -5x)(-8x^2 + 8x + 4)$

4)  $(-4x^2 + 3x)(8x^2 + -5x + 9)$

5)  $(-1x^2 + -2x)(-1x^2 + 8x + 6)$

6)  $(1x^2 + -2x)(-4x^2 + -7x)$

7)  $(2x^2 + 7x + -1)(1x^2 + -2x + -4)$

8)  $(-7x^2 + -4x + -3)(1x^2 + 8x + -7)$

9)  $(-9x^2 + 4x)(-4x^2 + -5x)$

10)  $(4x^2 + -7x + -3)(6x^2 + 7x + -8)$

**Answers**

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

7. \_\_\_\_\_

8. \_\_\_\_\_

9. \_\_\_\_\_

10. \_\_\_\_\_



Expand each problem using the box method.

1)  $(-1x^2 + -1x)(-7x^2 + 2x + -5)$

|         |         |         |
|---------|---------|---------|
|         | $-1x^2$ | $-1x$   |
| $-7x^2$ | $7x^4$  | $7x^3$  |
| $2x$    | $-2x^3$ | $-2x^2$ |
| $-5$    | $5x^2$  | $5x$    |

2)  $(-7x^2 + -2x + -4)(5x^2 + -9x)$

|        |          |          |          |
|--------|----------|----------|----------|
|        | $-7x^2$  | $-2x$    | $-4$     |
| $5x^2$ | $-35x^4$ | $-10x^3$ | $-20x^2$ |
| $-9x$  | $63x^3$  | $18x^2$  | $36x$    |

3)  $(-8x^2 + -5x)(-8x^2 + 8x + 4)$

|         |          |          |
|---------|----------|----------|
|         | $-8x^2$  | $-5x$    |
| $-8x^2$ | $64x^4$  | $40x^3$  |
| $8x$    | $-64x^3$ | $-40x^2$ |
| $4$     | $-32x^2$ | $-20x$   |

4)  $(-4x^2 + 3x)(8x^2 + -5x + 9)$

|        |          |          |
|--------|----------|----------|
|        | $-4x^2$  | $3x$     |
| $8x^2$ | $-32x^4$ | $24x^3$  |
| $-5x$  | $20x^3$  | $-15x^2$ |
| $9$    | $-36x^2$ | $27x$    |

5)  $(-1x^2 + -2x)(-1x^2 + 8x + 6)$

|         |         |          |
|---------|---------|----------|
|         | $-1x^2$ | $-2x$    |
| $-1x^2$ | $1x^4$  | $2x^3$   |
| $8x$    | $-8x^3$ | $-16x^2$ |
| $6$     | $-6x^2$ | $-12x$   |

6)  $(1x^2 + -2x)(-4x^2 + -7x)$

|         |         |         |
|---------|---------|---------|
|         | $1x^2$  | $-2x$   |
| $-4x^2$ | $-4x^4$ | $8x^3$  |
| $-7x$   | $-7x^3$ | $14x^2$ |

7)  $(2x^2 + 7x + -1)(1x^2 + -2x + -4)$

|        |         |          |         |
|--------|---------|----------|---------|
|        | $2x^2$  | $7x$     | $-1$    |
| $1x^2$ | $2x^4$  | $7x^3$   | $-1x^2$ |
| $-2x$  | $-4x^3$ | $-14x^2$ | $2x$    |
| $-4$   | $-8x^2$ | $-28x$   | $4$     |

8)  $(-7x^2 + -4x + -3)(1x^2 + 8x + -7)$

|        |          |          |         |
|--------|----------|----------|---------|
|        | $-7x^2$  | $-4x$    | $-3$    |
| $1x^2$ | $-7x^4$  | $-4x^3$  | $-3x^2$ |
| $8x$   | $-56x^3$ | $-32x^2$ | $-24x$  |
| $-7$   | $49x^2$  | $28x$    | $21$    |

9)  $(-9x^2 + 4x)(-4x^2 + -5x)$

|         |         |          |
|---------|---------|----------|
|         | $-9x^2$ | $4x$     |
| $-4x^2$ | $36x^4$ | $-16x^3$ |
| $-5x$   | $45x^3$ | $-20x^2$ |

10)  $(4x^2 + -7x + -3)(6x^2 + 7x + -8)$

|        |          |          |          |
|--------|----------|----------|----------|
|        | $4x^2$   | $-7x$    | $-3$     |
| $6x^2$ | $24x^4$  | $-42x^3$ | $-18x^2$ |
| $7x$   | $28x^3$  | $-49x^2$ | $-21x$   |
| $-8$   | $-32x^2$ | $56x$    | $24$     |

Answers

1.  $7x^4 + 5x^3 + 3x^2 + 5x$

2.  $-35x^4 + 53x^3 - 2x^2 + 36x$

3.  $64x^4 - 24x^3 - 72x^2 - 20x$

4.  $-32x^4 + 44x^3 - 51x^2 + 27x$

5.  $x^4 - 6x^3 - 22x^2 - 12x$

6.  $-4x^4x^3 + 14x^2$

7.  $2x^4 + 3x^3 - 23x^2 - 26x + 4$

8.  $-7x^4 - 60x^3 + 14x^2 + 4x + 21$

9.  $36x^4 + 29x^3 - 20x^2$

10.  $24x^4 - 14x^3 - 99x^2 + 35x + 24$



Expand each problem using the box method.

1)  $(8x^2+8x-3)(-7x^2+2x)$

2)  $(2x^2+4x)(-7x^2+9x)$

3)  $(-2x^2+6x+3)(-2x^2+7x)$

4)  $(-1x^2-3x+5)(-8x^2-4x)$

5)  $(-9x^2-3x)(8x^2-4x-7)$

6)  $(3x^2+6x)(4x^2-6x+8)$

7)  $(-9x^2+6x+5)(1x^2-3x)$

8)  $(-8x^2-6x+2)(7x^2+9x)$

9)  $(3x^2-1x-9)(-9x^2-3x)$

10)  $(-8x^2+6x)(-2x^2-5x)$

**Answers**

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

7. \_\_\_\_\_

8. \_\_\_\_\_

9. \_\_\_\_\_

10. \_\_\_\_\_



Expand each problem using the box method.

1)  $(8x^2+8x+3)(-7x^2+2x)$

|         |          |          |         |
|---------|----------|----------|---------|
|         | $8x^2$   | $8x$     | $-3$    |
| $-7x^2$ | $-56x^4$ | $-56x^3$ | $21x^2$ |
| $2x$    | $16x^3$  | $16x^2$  | $-6x$   |

2)  $(2x^2+4x)(-7x^2+9x)$

|         |          |          |
|---------|----------|----------|
|         | $2x^2$   | $4x$     |
| $-7x^2$ | $-14x^4$ | $-28x^3$ |
| $9x$    | $18x^3$  | $36x^2$  |

3)  $(-2x^2+6x+3)(-2x^2+7x)$

|         |          |          |         |
|---------|----------|----------|---------|
|         | $-2x^2$  | $6x$     | $3$     |
| $-2x^2$ | $4x^4$   | $-12x^3$ | $-6x^2$ |
| $7x$    | $-14x^3$ | $42x^2$  | $21x$   |

4)  $(-1x^2+3x+5)(-8x^2+4x)$

|         |         |         |          |
|---------|---------|---------|----------|
|         | $-1x^2$ | $-3x$   | $5$      |
| $-8x^2$ | $8x^4$  | $24x^3$ | $-40x^2$ |
| $-4x$   | $4x^3$  | $12x^2$ | $-20x$   |

5)  $(-9x^2+3x)(8x^2+4x+7)$

|        |          |          |
|--------|----------|----------|
|        | $-9x^2$  | $-3x$    |
| $8x^2$ | $-72x^4$ | $-24x^3$ |
| $-4x$  | $36x^3$  | $12x^2$  |
| $-7$   | $63x^2$  | $21x$    |

6)  $(3x^2+6x)(4x^2+6x+8)$

|        |          |          |
|--------|----------|----------|
|        | $3x^2$   | $6x$     |
| $4x^2$ | $12x^4$  | $24x^3$  |
| $-6x$  | $-18x^3$ | $-36x^2$ |
| $8$    | $24x^2$  | $48x$    |

7)  $(-9x^2+6x+5)(1x^2+3x)$

|        |         |          |        |
|--------|---------|----------|--------|
|        | $-9x^2$ | $6x$     | $5$    |
| $1x^2$ | $-9x^4$ | $6x^3$   | $5x^2$ |
| $-3x$  | $27x^3$ | $-18x^2$ | $-15x$ |

8)  $(-8x^2+6x+2)(7x^2+9x)$

|        |          |          |         |
|--------|----------|----------|---------|
|        | $-8x^2$  | $-6x$    | $2$     |
| $7x^2$ | $-56x^4$ | $-42x^3$ | $14x^2$ |
| $9x$   | $-72x^3$ | $-54x^2$ | $18x$   |

9)  $(3x^2+1x+9)(-9x^2+3x)$

|         |          |        |         |
|---------|----------|--------|---------|
|         | $3x^2$   | $-1x$  | $-9$    |
| $-9x^2$ | $-27x^4$ | $9x^3$ | $81x^2$ |
| $-3x$   | $-9x^3$  | $3x^2$ | $27x$   |

10)  $(-8x^2+6x)(-2x^2+5x)$

|         |         |          |
|---------|---------|----------|
|         | $-8x^2$ | $6x$     |
| $-2x^2$ | $16x^4$ | $-12x^3$ |
| $-5x$   | $40x^3$ | $-30x^2$ |

**Answers**

1.  $-56x^4-40x^3+37x^2-6x$

2.  $-14x^4-10x^3+36x^2$

3.  $4x^4-26x^3+36x^2+21x$

4.  $8x^4+28x^3-28x^2-20x$

5.  $-72x^4+12x^3+75x^2+21x$

6.  $12x^4+6x^3-12x^2+48x$

7.  $-9x^4+33x^3-13x^2-15x$

8.  $-56x^4-114x^3-40x^2+18x$

9.  $-27x^4+0x^3+84x^2+27x$

10.  $16x^4+28x^3-30x^2$



Expand each problem using the box method.

1)  $(-4x^2 + -1x + 8)(2x^2 + -8x)$

2)  $(2x^2 + -4x)(-7x^2 + 3x + 8)$

3)  $(8x^2 + -9x)(5x^2 + -4x + 6)$

4)  $(-6x^2 + -3x + 8)(-6x^2 + 8x)$

5)  $(2x^2 + -6x + 5)(-5x^2 + -4x)$

6)  $(-3x^2 + 8x)(-7x^2 + 6x)$

7)  $(7x^2 + 8x + 4)(7x^2 + -5x + 5)$

8)  $(4x^2 + 5x + -3)(-4x^2 + 3x + 3)$

9)  $(-8x^2 + -3x + 2)(-9x^2 + 6x)$

10)  $(-6x^2 + -5x)(8x^2 + 8x + -6)$

**Answers**

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

7. \_\_\_\_\_

8. \_\_\_\_\_

9. \_\_\_\_\_

10. \_\_\_\_\_



Expand each problem using the box method.

1)  $(-4x^2 + -1x + 8)(2x^2 + -8x)$

|        |         |         |         |
|--------|---------|---------|---------|
|        | $-4x^2$ | $-1x$   | $8$     |
| $2x^2$ | $-8x^4$ | $-2x^3$ | $16x^2$ |
| $-8x$  | $32x^3$ | $8x^2$  | $-64x$  |

2)  $(2x^2 + -4x)(-7x^2 + 3x + 8)$

|         |          |          |
|---------|----------|----------|
|         | $2x^2$   | $-4x$    |
| $-7x^2$ | $-14x^4$ | $28x^3$  |
| $3x$    | $6x^3$   | $-12x^2$ |
| $8$     | $16x^2$  | $-32x$   |

3)  $(8x^2 + -9x)(5x^2 + -4x + 6)$

|        |          |          |
|--------|----------|----------|
|        | $8x^2$   | $-9x$    |
| $5x^2$ | $40x^4$  | $-45x^3$ |
| $-4x$  | $-32x^3$ | $36x^2$  |
| $6$    | $48x^2$  | $-54x$   |

4)  $(-6x^2 + -3x + 8)(-6x^2 + 8x)$

|         |          |          |          |
|---------|----------|----------|----------|
|         | $-6x^2$  | $-3x$    | $8$      |
| $-6x^2$ | $36x^4$  | $18x^3$  | $-48x^2$ |
| $8x$    | $-48x^3$ | $-24x^2$ | $64x$    |

5)  $(2x^2 + -6x + 5)(-5x^2 + -4x)$

|         |          |         |          |
|---------|----------|---------|----------|
|         | $2x^2$   | $-6x$   | $5$      |
| $-5x^2$ | $-10x^4$ | $30x^3$ | $-25x^2$ |
| $-4x$   | $-8x^3$  | $24x^2$ | $-20x$   |

6)  $(-3x^2 + 8x)(-7x^2 + 6x)$

|         |          |          |
|---------|----------|----------|
|         | $-3x^2$  | $8x$     |
| $-7x^2$ | $21x^4$  | $-56x^3$ |
| $6x$    | $-18x^3$ | $48x^2$  |

7)  $(7x^2 + 8x + 4)(7x^2 + -5x + 5)$

|        |          |          |         |
|--------|----------|----------|---------|
|        | $7x^2$   | $8x$     | $4$     |
| $7x^2$ | $49x^4$  | $56x^3$  | $28x^2$ |
| $-5x$  | $-35x^3$ | $-40x^2$ | $-20x$  |
| $5$    | $35x^2$  | $40x$    | $20$    |

8)  $(4x^2 + 5x + -3)(-4x^2 + 3x + 3)$

|         |          |          |         |
|---------|----------|----------|---------|
|         | $4x^2$   | $5x$     | $-3$    |
| $-4x^2$ | $-16x^4$ | $-20x^3$ | $12x^2$ |
| $3x$    | $12x^3$  | $15x^2$  | $-9x$   |
| $3$     | $12x^2$  | $15x$    | $-9$    |

9)  $(-8x^2 + -3x + 2)(-9x^2 + 6x)$

|         |          |          |          |
|---------|----------|----------|----------|
|         | $-8x^2$  | $-3x$    | $2$      |
| $-9x^2$ | $72x^4$  | $27x^3$  | $-18x^2$ |
| $6x$    | $-48x^3$ | $-18x^2$ | $12x$    |

10)  $(-6x^2 + -5x)(8x^2 + 8x + -6)$

|        |          |          |
|--------|----------|----------|
|        | $-6x^2$  | $-5x$    |
| $8x^2$ | $-48x^4$ | $-40x^3$ |
| $8x$   | $-48x^3$ | $-40x^2$ |
| $-6$   | $36x^2$  | $30x$    |

Answers

1.  $-8x^4 + 30x^3 + 24x^2 - 64x$

2.  $-14x^4 + 34x^3 + 4x^2 - 32x$

3.  $40x^4 - 77x^3 + 84x^2 - 54x$

4.  $36x^4 - 30x^3 - 72x^2 + 64x$

5.  $-10x^4 + 22x^3 - 1x^2 - 20x$

6.  $21x^4 - 74x^3 + 48x^2$

7.  $49x^4 + 21x^3 + 23x^2 + 20x + 20$

8.  $-16x^4 - 8x^3 + 39x^2 + 6x - 9$

9.  $72x^4 - 21x^3 - 36x^2 + 12x$

10.  $-48x^4 - 88x^3 - 4x^2 + 30x$



Expand each problem using the box method.

1)  $(1x^2 + -2x)(-6x^2 + 3x)$

2)  $(4x^2 + -3x + 2)(-6x^2 + -4x)$

3)  $(5x^2 + 5x)(-4x^2 + -4x + -6)$

4)  $(-8x^2 + 3x + 8)(-8x^2 + 9x)$

5)  $(-5x^2 + -7x)(7x^2 + 1x)$

6)  $(7x^2 + -6x)(4x^2 + -5x)$

7)  $(-5x^2 + -5x + -7)(-7x^2 + -2x)$

8)  $(8x^2 + -1x)(-9x^2 + 9x + -2)$

9)  $(-6x^2 + 2x + 6)(8x^2 + -1x)$

10)  $(-1x^2 + 1x)(-1x^2 + -3x)$

**Answers**

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

7. \_\_\_\_\_

8. \_\_\_\_\_

9. \_\_\_\_\_

10. \_\_\_\_\_



Expand each problem using the box method.

1)  $(1x^2 + -2x)(-6x^2 + 3x)$

|         |         |         |
|---------|---------|---------|
|         | $1x^2$  | $-2x$   |
| $-6x^2$ | $-6x^4$ | $12x^3$ |
| $3x$    | $3x^3$  | $-6x^2$ |

2)  $(4x^2 + -3x + 2)(-6x^2 + -4x)$

|         |          |         |          |
|---------|----------|---------|----------|
|         | $4x^2$   | $-3x$   | $2$      |
| $-6x^2$ | $-24x^4$ | $18x^3$ | $-12x^2$ |
| $-4x$   | $-16x^3$ | $12x^2$ | $-8x$    |

3)  $(5x^2 + 5x)(-4x^2 + -4x + -6)$

|         |          |          |
|---------|----------|----------|
|         | $5x^2$   | $5x$     |
| $-4x^2$ | $-20x^4$ | $-20x^3$ |
| $-4x$   | $-20x^3$ | $-20x^2$ |
| $-6$    | $-30x^2$ | $-30x$   |

4)  $(-8x^2 + 3x + 8)(-8x^2 + 9x)$

|         |          |          |          |
|---------|----------|----------|----------|
|         | $-8x^2$  | $3x$     | $8$      |
| $-8x^2$ | $64x^4$  | $-24x^3$ | $-64x^2$ |
| $9x$    | $-72x^3$ | $27x^2$  | $72x$    |

5)  $(-5x^2 + -7x)(7x^2 + 1x)$

|        |          |          |
|--------|----------|----------|
|        | $-5x^2$  | $-7x$    |
| $7x^2$ | $-35x^4$ | $-49x^3$ |
| $1x$   | $-5x^3$  | $-7x^2$  |

6)  $(7x^2 + -6x)(4x^2 + -5x)$

|        |          |          |
|--------|----------|----------|
|        | $7x^2$   | $-6x$    |
| $4x^2$ | $28x^4$  | $-24x^3$ |
| $-5x$  | $-35x^3$ | $30x^2$  |

7)  $(-5x^2 + -5x + -7)(-7x^2 + -2x)$

|         |         |         |         |
|---------|---------|---------|---------|
|         | $-5x^2$ | $-5x$   | $-7$    |
| $-7x^2$ | $35x^4$ | $35x^3$ | $49x^2$ |
| $-2x$   | $10x^3$ | $10x^2$ | $14x$   |

8)  $(8x^2 + -1x)(-9x^2 + 9x + -2)$

|         |          |         |
|---------|----------|---------|
|         | $8x^2$   | $-1x$   |
| $-9x^2$ | $-72x^4$ | $9x^3$  |
| $9x$    | $72x^3$  | $-9x^2$ |
| $-2$    | $-16x^2$ | $2x$    |

9)  $(-6x^2 + 2x + 6)(8x^2 + -1x)$

|        |          |         |         |
|--------|----------|---------|---------|
|        | $-6x^2$  | $2x$    | $6$     |
| $8x^2$ | $-48x^4$ | $16x^3$ | $48x^2$ |
| $-1x$  | $6x^3$   | $-2x^2$ | $-6x$   |

10)  $(-1x^2 + 1x)(-1x^2 + -3x)$

|         |         |         |
|---------|---------|---------|
|         | $-1x^2$ | $1x$    |
| $-1x^2$ | $1x^4$  | $-1x^3$ |
| $-3x$   | $3x^3$  | $-3x^2$ |

Answers

1.  $-6x^4 + 15x^3 - 6x^2$

2.  $-24x^4 + 2x^3 - 8x$

3.  $-20x^4 - 40x^3 - 50x^2 - 30x$

4.  $64x^4 - 96x^3 - 37x^2 + 72x$

5.  $-35x^4 - 54x^3 - 7x^2$

6.  $28x^4 - 59x^3 + 30x^2$

7.  $35x^4 + 45x^3 + 59x^2 + 14x$

8.  $-72x^4 + 81x^3 - 25x^2 + 2x$

9.  $-48x^4 + 22x^3 + 46x^2 - 6x$

10.  $x^4 + 2x^3 - 3x^2$



Expand each problem using the box method.

1)  $(7x^2+6x)(3x^2-7x+6)$

2)  $(-7x^2-6x-7)(-4x^2+3x)$

3)  $(-5x^2-8x-9)(-6x^2-2x)$

4)  $(-8x^2+4x)(9x^2+7x-3)$

5)  $(-6x^2+5x-4)(-8x^2-5x)$

6)  $(-8x^2+8x-2)(2x^2-2x-2)$

7)  $(2x^2+5x+7)(-5x^2+2x)$

8)  $(-9x^2+1x+8)(-6x^2-8x)$

9)  $(6x^2+1x+1)(-5x^2-8x+6)$

10)  $(-9x^2+3x)(-3x^2-4x-1)$

**Answers**

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

7. \_\_\_\_\_

8. \_\_\_\_\_

9. \_\_\_\_\_

10. \_\_\_\_\_



Expand each problem using the box method.

1)  $(7x^2+6x)(3x^2-7x+6)$

|        |          |          |  |
|--------|----------|----------|--|
|        | $7x^2$   | $6x$     |  |
| $3x^2$ | $21x^4$  | $18x^3$  |  |
| $-7x$  | $-49x^3$ | $-42x^2$ |  |
| $6$    | $42x^2$  | $36x$    |  |

2)  $(-7x^2-6x-7)(-4x^2+3x)$

|         |          |          |         |
|---------|----------|----------|---------|
|         | $-7x^2$  | $-6x$    | $-7$    |
| $-4x^2$ | $28x^4$  | $24x^3$  | $28x^2$ |
| $3x$    | $-21x^3$ | $-18x^2$ | $-21x$  |

3)  $(-5x^2-8x-9)(-6x^2-2x)$

|         |         |         |         |
|---------|---------|---------|---------|
|         | $-5x^2$ | $-8x$   | $-9$    |
| $-6x^2$ | $30x^4$ | $48x^3$ | $54x^2$ |
| $-2x$   | $10x^3$ | $16x^2$ | $18x$   |

4)  $(-8x^2+4x)(9x^2+7x-3)$

|        |          |         |
|--------|----------|---------|
|        | $-8x^2$  | $4x$    |
| $9x^2$ | $-72x^4$ | $36x^3$ |
| $7x$   | $-56x^3$ | $28x^2$ |
| $-3$   | $24x^2$  | $-12x$  |

5)  $(-6x^2+5x-4)(-8x^2-5x)$

|         |         |          |         |
|---------|---------|----------|---------|
|         | $-6x^2$ | $5x$     | $-4$    |
| $-8x^2$ | $48x^4$ | $-40x^3$ | $32x^2$ |
| $-5x$   | $30x^3$ | $-25x^2$ | $20x$   |

6)  $(-8x^2+8x-2)(2x^2-2x-2)$

|        |          |          |         |
|--------|----------|----------|---------|
|        | $-8x^2$  | $8x$     | $-2$    |
| $2x^2$ | $-16x^4$ | $16x^3$  | $-4x^2$ |
| $-2x$  | $16x^3$  | $-16x^2$ | $4x$    |
| $-2$   | $16x^2$  | $-16x$   | $4$     |

7)  $(2x^2+5x+7)(-5x^2+2x)$

|         |          |          |          |
|---------|----------|----------|----------|
|         | $2x^2$   | $5x$     | $7$      |
| $-5x^2$ | $-10x^4$ | $-25x^3$ | $-35x^2$ |
| $2x$    | $4x^3$   | $10x^2$  | $14x$    |

8)  $(-9x^2+1x+8)(-6x^2-8x)$

|         |         |         |          |
|---------|---------|---------|----------|
|         | $-9x^2$ | $1x$    | $8$      |
| $-6x^2$ | $54x^4$ | $-6x^3$ | $-48x^2$ |
| $-8x$   | $72x^3$ | $-8x^2$ | $-64x$   |

9)  $(6x^2+1x+1)(-5x^2-8x+6)$

|         |          |         |         |
|---------|----------|---------|---------|
|         | $6x^2$   | $1x$    | $1$     |
| $-5x^2$ | $-30x^4$ | $-5x^3$ | $-5x^2$ |
| $-8x$   | $-48x^3$ | $-8x^2$ | $-8x$   |
| $6$     | $36x^2$  | $6x$    | $6$     |

10)  $(-9x^2+3x)(-3x^2-4x-1)$

|         |         |          |
|---------|---------|----------|
|         | $-9x^2$ | $3x$     |
| $-3x^2$ | $27x^4$ | $-9x^3$  |
| $-4x$   | $36x^3$ | $-12x^2$ |
| $-1$    | $9x^2$  | $-3x$    |

Answers

1.  $21x^4-31x^3+36x$

2.  $28x^4+3x^3+10x^2-21x$

3.  $30x^4+58x^3+70x^2+18x$

4.  $-72x^4-20x^3+52x^2-12x$

5.  $48x^4-10x^3+7x^2+20x$

6.  $-16x^4+32x^3-4x^2-12x+4$

7.  $-10x^4-21x^3-25x^2+14x$

8.  $54x^4+66x^3-56x^2-64x$

9.  $-30x^4-53x^3+23x^2-2x+6$

10.  $27x^4+27x^3-3x^2-3x$