

9-4-19 1st Geo

① $x^2 + \square x + 12$ 12
1, 12
2, 6

13x $(x+1)(x+12)$

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

7x $(x+3)(x+4)$

② $x^2 + \square x + 20$ 20
1, 20
2, 10
4, 5

21x $(x+1)(x+20)$

12x $(x+2)(x+10)$

9x $(x+4)(x+5)$

③ Factor $x^2 + 13x + 30$ 30
1, 30
2, 15
3, 10
5, 6

$(x+3)(x+10)$

④ Factor $x^2 + 8x - 20$ diff 20
19 1, 20
8 -2, 10
1 4, 5

$(x-2)(x+10)$

⑤ Factor $x^2 + 3x - 40$

Diff 40

$(x - 5)(x + 8)$

| | |
|----|-------|
| 39 | 1, 40 |
| 18 | 2, 20 |
| 6 | 4, 10 |
| 3 | 5, 8 |

$\boxed{6}x^2 + \boxed{}x + 7$

| | |
|----------|----------|
| <u>6</u> | <u>7</u> |
| 1, 6 | 1, 7 |
| 2, 3 | |

13x $(x + 1)(6x + 7)$

43x $(x + 7)(6x + 1)$

17x $(2x + 1)(3x + 7)$

23x $(2x + 7)(3x + 1)$

8 $x^2 + \boxed{}x + \underline{5}$

| | |
|----------|----------|
| <u>8</u> | <u>5</u> |
| 1, 8 | 1, 5 |
| 2, 4 | |

13x $(x + 1)(8x + 5)$

41x $(x + 5)(8x + 1)$

14x $(2x + 1)(4x + 5)$

22x $(2x + 5)(4x + 1)$

$$\underline{10}x^2 + \square x + \underline{4}$$

$$\frac{10}{1,10} \quad \frac{4}{1,4}$$

$$\frac{10}{2,5} \quad \frac{4}{2,2}$$

$14x(x+1)(10x+4)$
 $41x(x+4)(10x+1)$
 $22x(x+2)(10x+2)$
 $13x(2x+1)(5x+4)$
 $22x(2x+4)(5x+1)$
 $14x(2x+2)(5x+2)$

$$\underline{12}x^2 + \square x + \underline{5}$$

$$\frac{12}{1,12} \quad \frac{5}{1,5}$$

$$\frac{12}{2,6} \quad \frac{5}{2,5}$$

$$\frac{12}{3,4}$$

$17x(x+1)(12x+5)$
 $61x(x+5)(12x+1)$
 $16x(2x+1)(6x+5)$
 $32x(2x+5)(6x+1)$
 $19x(3x+1)(4x+5)$
 $23x(3x+5)(4x+1)$

$$\underline{10}x^2 + \square x + \underline{9}$$

$$\frac{10}{1,10} \quad \frac{9}{1,9}$$

$$\frac{10}{2,5} \quad \frac{9}{3,3}$$

$19x(x+1)(10x+9)$
 $91x(x+9)(10x+1)$
 $33x(x+3)(10x+3)$
 $23x(2x+1)(5x+9)$
 $47x(2x+9)(5x+1)$
 $21x(2x+3)(5x+3)$

$$8x^2 + \square x + \underline{10}$$

$$\begin{array}{l} \underline{8} \\ 1, 8 \\ 2, 4 \end{array} \begin{array}{l} \xrightarrow{2} \\ \xrightarrow{2} \end{array} \begin{array}{l} \underline{10} \\ 1, 10 \\ 2, 5 \end{array}$$

$$12x^2 + \square x + 7$$

$$\begin{array}{l} \underline{12} \\ 1, 12 \\ 2, 6 \\ 3, 4 \end{array} \begin{array}{l} \xrightarrow{2} \\ \xrightarrow{2} \\ \xrightarrow{2} \end{array} \begin{array}{l} \underline{7} \\ 1, 7 \end{array}$$

Caroline WHERIS

9-4-19 3rd Trig

① $x^2 + \square x + 20$

$(x+1)(x+20)$
 $(x+2)(x+10)$
 $(x+4)(x+5)$

20
21x 1, 20
12x 2, 10
9x 3, 5

② $x^2 + \square x + 12$

$(x+1)(x+12)$
 $(x+2)(x+6)$
 $(x+3)(x+4)$

12
1, 12
2, 6
3, 4

③ Factor $x^2 + x - 30$

Diff. 30
29 1, 30
13 2, 15
7 3, 10
1 -5, 6

④ Factor $x^2 - 10x - 24$

$(x+2)(x-12)$

Diff. 24
23 1, 24
10 +2, 12
5 3, 8
2 4, 6

⑧ $6x^2 + \square x + 25$

Factor pairs for 6: (1,6), (2,3)
 Factor pairs for 25: (1,25), (5,5)

- 31x $(x + 1)(6x + 25)$
- 151x $(x + 25)(6x + 1)$
- 35x $(x + 5)(6x + 5)$
- 53x $(2x + 1)(3x + 25)$
- 77x $(2x + 25)(3x + 1)$
- 25x $(2x + 5)(3x + 5)$

⑨ $8x^2 + \square x + 15$

Factor pairs for 8: (1,8), (2,4)
 Factor pairs for 15: (1,15), (3,5)

- 23x $(x + 1)(8x + 15)$
- 121x $(x + 15)(8x + 1)$
- 29x $(x + 3)(8x + 5)$
- 43x $(x + 5)(8x + 3)$
- 34x $(2x + 1)(4x + 15)$
- 62x $(2x + 15)(4x + 1)$
- 22x $(2x + 3)(4x + 5)$
- 26x $(2x + 5)(4x + 3)$