

Warm-Up

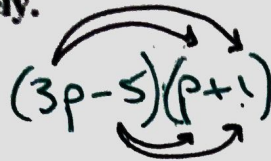
$$(p+1)(3p-5)$$

↓ FOIL

Factor each completely.

$$1) 3p^2 - 2p - 5$$

$\begin{matrix} \wedge & & \wedge \\ 3 & & 5 \end{matrix}$

$$(3p-5)(p+1)$$


check

$$3p^2 + \underline{3p} - \underline{5p} - 5$$
$$3p^2 - 2p - 5 \checkmark$$

$$3) 3n^2 - 8n + 4 \quad (3n-2)(n-2)$$

$$4) 5n^2 + 19n + 12 \quad (5n+4)(n+3)$$

$$5) 5v^2 - 30v + 40$$

$$5(v^2 - 6v + 8) = \boxed{5(v-2)(v-4)}$$



GREATEST COMMON FACTOR

1. $\frac{-35x^4}{-7x} + \frac{49x}{-7x}$ $\boxed{-7x(5x^3 - 7)}$

2. $\frac{6x^2}{6x^2} + \frac{18x^4}{6x^2}$ $\boxed{6x^2(1 + 3x^2)}$

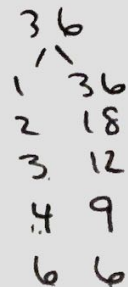
3. $\frac{18x^5}{6} - \frac{18x^2}{6} - \frac{48}{6}$ $\boxed{6(3x^5 - 3x^2 - 8)}$

4. $\frac{25x^4y}{5x^3} + \frac{20x^3y}{5x^3} - \frac{40x^3}{5x^3}$ $\boxed{5x^3(5xy + 4y - 8)}$

FACTORING TRINOMIALS: a = 1

5. $x^2 + 5x - 36$
 $\boxed{(x + 9)(x - 4)}$

6. $x^2 + 7x + 10$
 $\boxed{(x + 5)(x + 2)}$



7. $n^2 - n - 2$
 $\boxed{(n - 2)(n + 1)}$

8. $x^2 - 11x + 28$
 $\boxed{(x - 7)(x - 4)}$

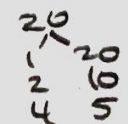
FACTORING POLYNOMIALS: a > 1

9. $5x^2 + 24x - 5$
 $\boxed{(5x - 1)(x + 5)}$

10. $2x^2 + 7x - 4$
 $\boxed{(2x - 1)(x + 4)}$

11. $2x^2 - x - 3$
 $\boxed{(2x - 3)(x + 1)}$

12. $3x^2 - 11x - 20$
 $\boxed{(3x + 4)(x - 5)}$



PUTTING IT ALL TOGETHER: some of these you may have to take out a GCF and then factor the remaining polynomial!

13. $\frac{6n^2}{6} - \frac{6n}{6} + \frac{12}{6}$ $\boxed{6(n^2 - n + 2)}$

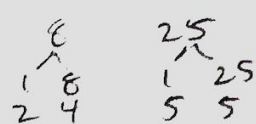
14. $\frac{5v^4}{v^4} + \frac{3v^7}{v^4}$ $\boxed{v^4(5 + 3v^3)}$

15. $\frac{5x^2}{5} + \frac{35x}{5} - \frac{150}{5}$ $\boxed{5(x^2 + 7x - 30)}$
 $\boxed{5(x - 3)(x + 10)}$

16. $\frac{70x^4y^4}{10x^3y^3} + \frac{40x^4y^3}{10x^3y^3} - \frac{40x^3y^3}{10x^3y^3}$ $\boxed{10x^3y^3(7xy + 4x - 4)}$

17. $8x^2 - 10x - 25$ $\boxed{(2x - 5)(4x + 5)}$

18. $2x^2 + 11x + 5$ $\boxed{(2x + 1)(x + 5)}$



How Can Fishermen Save Gas ?

Factor each trinomial below. Find one of the factors in each column of binomials. Notice the letter next to one factor and the number next to the other. Write the letter in the box at the bottom of the page that contains the matching number.

- ① $4n^2 - 49$
- ② $n^2 + 8n + 12$
- ③ $n^2 - 9n + 20$
- ④ $n^2 + 16n + 64$
- ⑤ $n^2 + 2n - 15$
- ⑥ $3n^2 - 8n + 5$

- ③ $(n + 1)$
- ⑪ $(n + 2)$
- ② $(n + 8)$
- ⑨ $(2n + 7)$
- ④ $(n + 5)$
- ⑱ $(n - 1)$
- ⑭ $(n - 4)$
- ⓐ $(n - 3)$
- ⓖ $(2n - 7)$
- Ⓟ $(n - 5)$
- Ⓢ $(3n - 5)$
- Ⓨ $(n + 8)$
- Ⓚ $(3n - 1)$
- Ⓐ $(n + 6)$

- ⑦ $a^2 + 4a - 21$
- ⑧ $5a^2 + 9a - 2$
- ⑨ $2a^2 + 11a + 15$
- ⑩ $1 - 9a^4$
- ⑪ $a^2 - 11a + 30$
- ⑫ $10a^2 - 3a - 1$

- ① $(a - 5)$
- ⑬ $(a + 7)$
- ⑤ $(5a + 1)$
- ⑦ $(a + 2)$
- ⑮ $(a - 1)$
- ⑧ $(1 - 3a^2)$
- ⑯ $(2a + 5)$
- ⓖ $(2a + 1)$
- ⓑ $(a - 6)$
- Ⓟ $(a - 3)$
- ⓐ $(a + 3)$
- Ⓢ $(5a - 1)$
- Ⓡ $(2a - 1)$
- Ⓝ $(1 + 3a^2)$

- ⑬ $8u^2 + 19u + 6$
- ⑭ $25u^2 - 20u + 4$
- ⑮ $3u^2 - 11u - 14$
- ⑯ $u^2 - 4u - 21$
- ⑰ $6u^2 + 17u - 10$
- ⑱ $2u^2 + 5u - 18$

- ⑩ $(u + 3)$
- ⑫ $(2u + 9)$
- ⑰ $(u - 3)$
- ③ $(5u - 2)$
- ⑥ $(3u - 14)$
- ⑮ $(u + 2)$
- ⑰ $(3u + 10)$
- Ⓜ $(u + 1)$
- ⓑ $(2u + 1)$
- ⓐ $(8u + 3)$
- Ⓛ $(2u - 1)$
- Ⓒ $(u - 7)$
- Ⓡ $(u - 2)$
- Ⓕ $(5u - 2)$

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
B	Y	F	O	R	M	I	N	G	C	A	R	P	P	O	O	L	S