Factor x^2+bx+c RWS #2 Factorer: Key

#1-15, Factor each expression (if possible) by first looking for a GCF, then checking the trinomial.

1. $x^2 + 13x + 40$

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

2. $x^2 - 6x - 16$

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

3. $w^2 - w - 2$

$(w-2)(w+1)$

4. $k^2 - 5k$

$K(K-5)$

5. $k^2 - 5k - 6$

$(K-6)(K+1)$

6. $2x^3 - 14x^2 - 60x$

$2x(x^2-7x-30)$

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

7. $5x^3 + 10x^2 + 15x$

$5x(x^2+2x+3)$

$5x$ can't do more

$(x+3)(x-1)$ won't work

8. $3x^2y + 13xy^2 + 23$

prime

9. $3w^4 - 39w^3 + 126w^2$

$3w^2(w^2-13w+42)$

$3w^2(w-6)(w-7)$

10. $12r^5 - 16r^3$

$4r^3(3r^2-4)$

11. $2x^2y + 10xy - 48y$

$2y(x^2+5x-24)$

$2y(x+8)(x-3)$

12. $y^2 - 21y + 20$

$(y-20)(y-1)$

#16-21, Factor each polynomial with 4 terms by grouping, if possible.

16. $x^3 + 3x^2 + 2x + 6$

$x^2(x+3)\ 2(x+3)$

$(x^2+2)(x+3)$

17. $12n^3 - 6n^2 - 10n + 5$

$3n^2(4n-2)\ -5(2n-1)$

$6n^2(2n-1)\ -5(2n-1)$ must match

$(2n-1)(6n^2-5)$

18. $3p^3 - 2p^2 - 12p + 8$

$p^2(3p-2) - 4(3p-2)$

$(p^2-4)(3p-2)$

19. $4c^3 + 3c^2 + 15c + 24$

prime

$c^2(4c+3)\ 3(5c+8)$

can't make them match

prime