

Welcome Back Assignment

Expand:

1. $3(x-4)$

$3x - 12$

2. $(x-5)(x-3)$

$x^2 - 8x + 15$

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

$x^3 + 2x^2$

4. $(x+5)(x-3)$

$x^2 + 2x - 15$

5. $(x+5)(x+3)$

$x^2 + 8x + 15$

6. $(x-5)(x+3)$

$x^2 - 2x - 15$

7. $(2x-3)(3x+2)$

$6x^2 - 5x - 6$

8. $(x-9)(x+9)$

$x^2 - 81$

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

$3x^3 + 9x$

Factor:

10. $6k^4 + 18k^3$

$6k^3(k+3)$

11. $4p^7 - 8p^4$

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

12. $x^2 - 7x - 18$

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

13. $x^2 - 16x + 63$

$(x-9)(x-7)$

14. $m^2 - 9m + 8$

$(m-1)(m-8)$

15. $p^2 - 5p - 14$

$(p+2)(p-7)$

16. $n^2 - 36$

$(n+6)(n-6)$

17. $b^2 - 49$

$(b+7)(b-7)$

18. $4p^2 + 36p + 32$

$4(p+8)(p+1)$

Name the vertex and AOS

19. $f(x) = (x+2)^2 + 4$

V: $(-2, 4)$

AOS: $x = -2$

20. $f(x) = (x-2)^2 - 4$

V: $(2, -4)$

AOS: $x = 2$

21. $f(x) = (x+4)^2 - 2$

V: $(-4, -2)$

AOS: $x = -4$

Change to standard form:

22. $y = 3(x+7)^2 + 19$

$3x^2 + 42x + 166$

23. $y = 2(x-3)^2 + 4$

$2x^2 - 12x + 22$

List four values of c that make the expression factorable:

24. $x^2 - 3x + c$

$0, 2, -4, -10, -18, \dots$

What b value makes the expression factorable?

25. $x^2 + bx + 12$

$13, 8, 7, -13, -8, -7$