

Factor out the Greatest Common Factor.

1. $a \cdot a \cdot b + 7 \cdot a \cdot b$
 $a^2b + 7ab$
 $ab(a + 7)$

2. $2 \cdot 3 \cdot 3 \cdot x \cdot y \cdot y - 2 \cdot 3 \cdot x \cdot y \cdot y$
 $18x^2y^3 - 6xy^2$
 $6xy^2(3xy - 1)$

3. $3b^3 + 9b^2 + 18b$

~~4.~~ $4m^3 + 8m^2 - 16m$

Factor out the Greatest Common Binomial Factor.

5. $n(n-9) - 1(n-9)$
 $(n-9)(n-1)$

6. $x(x-4) + 6(x-4)$

7. $k(k-8) - 5(k-8)$

8. $z(z-12) - 2(z-12)$
 $(z-12)(z-2)$

Factor by grouping.

13. $(3n^2 - 6n)(2n + 4)$
 $3n(n-2) - 2(n-2)$
 $(n-2)(3n-2)$

14. $2r^2 + r + 10r + 5$

15. $2n^2 - 3n + 6n - 9$

16. $(2b^2 + b)(4b - 2)$
 $b(2b+1) - 2(2b+1)$
 $(2b+1)(b-2)$

$$17. (36x^2 + 6x) + (6x + 1)$$

$$6x(6x+1) + 1(6x+1)$$

$$(6x+1)(6x+1) =$$

$$\boxed{(6x+1)^2}$$

$$19. 9k^2 + 63k + 3k + 21$$

$$18. 6x^2 + 8x + 18x + 24$$

$$20. (7x^2 - 3x) + (14x - 6)$$

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

$$\boxed{(7x-3)(x+2)}$$