

Name: _____

Factoring using Distributive Property and GCF

Factor each polynomial.

1) $17a - 41a^3b$

2) $a + a^4b^3$

3) $3x^3y + 9y^2 + 6$

4) $5a^2 + 10ab - 15a^2$

5) $2a^3b^2 - 16a^2b^3 + 8ab$

6) $3x^3y + 9xy^2 + 36xy$

7) $24x^2y^2 + 12xy + x$

8) $28a^2b^2c^2 + 21a^2bc^2 - 14abc$

9) $6x^2 - 9xy + 24x^2y^2$

10) $a + a^2b + a^3b^3$

11) $24abx + 12ax^2 + 6x^3$

12) $x^5 + 5x^4 + 3x^2 + 2x$

13) $12ax + 20bx + 32cx$

14) $14a^3x + 19a^3y + 11a^3z$

15) $ax^3 + 5bx^3 + 9cx^3$

16) $42abc - 12a^2b^2 + 3a^2c^2$

17) $-\frac{1}{2}x^2 - \frac{1}{4}ax$

18) $\frac{2}{3}x + \frac{1}{3}y$

19) $\frac{4}{5}x^2y + \frac{3}{5}y^2$

20) $\frac{2}{5}a - \frac{2}{5}b + \frac{4}{5}c$

21) $2(x+3) + 3x(x+3)$

22) $2x(x-10) + 3(x-10)$

23) $-2x(5-x) - 7(5-x)$

24) $x(m+n) - 3(m+n)$

25) $x^2(3m+2n) - 7(3m+2n)$

26) $-a(a+20) + 7(a+20)$

27) $4a(4a+5b) + 3b(4a+5b)$

28) $(4a+3)(x-2y) + 3b(x-2y)$

Find the missing part of each factorization.

$$29) \quad 3 + 3m + 9f = 3(\underline{\quad} + m + 3f)$$

$$30) \quad -x - 12 = \underline{\quad}(x + 10)$$

$$31) \quad -6x^2 - 36x = -6x(\underline{\quad} + 6)$$

$$32) \quad x^7 + x^5 - x^3 - x = x(\underline{\quad} + x^4 - x^2 \underline{\quad})$$

59) After t years, the amount of money in a saving account that earns simple interest is $p + prt$, where p is the starting amount and r the yearly interest rate. Factor this expression.