Factoring

Answer Key

Common Factoring - Day #2

Factor the common factor out of each expression.

1) $42x^4y - 6xy + 36x + 36$

$= 6(7x^4y - xy + 6x + 6)$

2) $27y^2x^4 - 6y^5x - 24y^4 - 6y^3$

$= 3y^2(9x^4 - 2y^3x - 8y^2 - 2y)$

3) $27y^2zx - 45y^3z^2 + 72y^3z$

$= 9y^2z(3x - 5yz + 8y)$

4) $64x^6y^2z^6 + 16x^3y^4z^5 + 56x^4y^2z^3 + 24xy^2z^2$

$= 8x^1y^2z^2(8x^5z^4 + 2x^2y^2z^3 + 7x^3z + 3)$

5) $-14x^2yz^3 - 14x^2yz + 21x$

$= 7x(-2xyz^3 - 2xyz + 3)$

6) $36 + 6a - 60a^3$

$= 6(6 + a - 10a^3)$

7) $-48p^4 + 8p^2 + 72p$

$= 8p(-6p^3 + p^1 + 9)$

8) $-18a - 48a^2$

$= -6a(3 + 8a)$

9) $16p^5 - 24$

$= 8(2p^5 - 3)$

10) $40uv^3 + 16$

$= 8(5uv^3 + 2)$

11) $60u^5v^3 + 20u^2v^4 - 50u^4v + 100u^2v^2$

$= 10u^2v^1(6u^3v^2 + 2v^3 - 5u^2 + 10v^1)$

12) $27a^2b^2 + 21a^3b^3 + 3a^4b^3 + 9a^5b^2$

$= 3a^2b^2(9 + 7a^1b^1 + a^2b^1 + 3a^3)$

Find each product.

13) $5uv(8u + 5v)$

$= 40u^2v + 25uv^2$

14) $8xy(6x + 2y)$

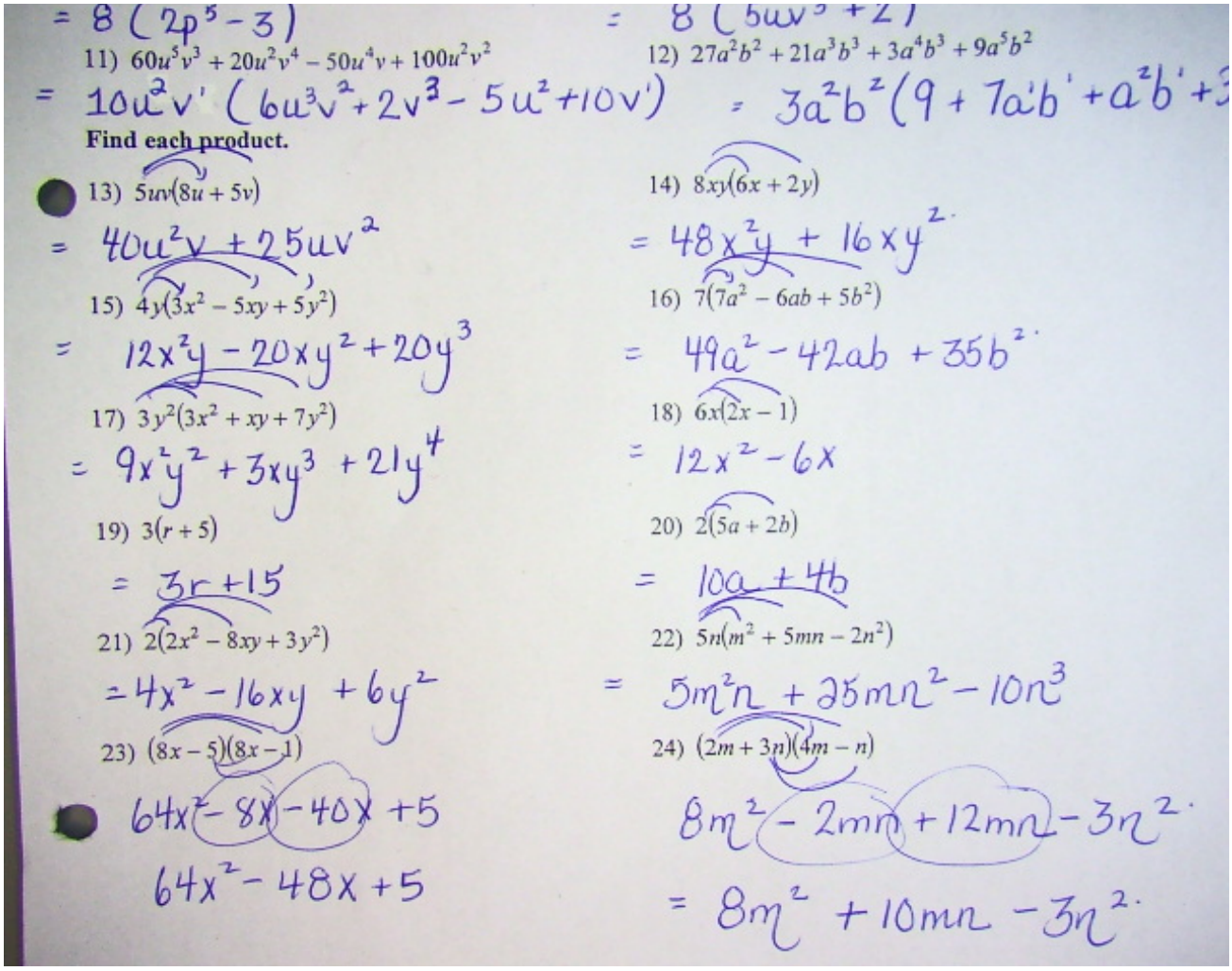
$= 48x^2y + 16xy^2$

15) $4y(3x^2 - 5xy + 5y^2)$

$= 12x^2y - 20xy^2 + 20y^3$

16) $7(7a^2 - 6ab + 5b^2)$

$= 49a^2 - 42ab + 35b^2$



$= 8(2p^5 - 3)$

11) $60u^5v^3 + 20u^2v^4 - 50u^4v + 100u^2v^2$

$= 10u^2v^1(6u^3v^2 + 2v^3 - 5u^2 + 10v^1)$

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$= 3a^2b^2(9 + 7a^1b^1 + a^2b^1 +$

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16) $7(7a^2 - 6ab + 5b^2)$

$= 49a^2 - 42ab + 35b^2$

17) $3y^2(3x^2 + xy + 7y^2)$

$= 9x^2y^2 + 3xy^3 + 21y^4$

18) $6x(2x - 1)$

$= 12x^2 - 6x$

19) $3(r + 5)$

$= 3r + 15$

20) $2(5a + 2b)$

$= 10a + 4b$

21) $2(2x^2 - 8xy + 3y^2)$

$= 4x^2 - 16xy + 6y^2$

22) $5n(m^2 + 5mn - 2n^2)$

$= 5m^2n + 25mn^2 - 10n^3$

23) $(8x - 5)(8x - 1)$

$64x^2 - 8x - 40x + 5$

$64x^2 - 48x + 5$

24) $(2m + 3n)(4m - n)$

$8m^2 - 2mn + 12mn - 3n^2$

$= 8m^2 + 10mn - 3n^2$