Greatest Common Factor and Factoring by Grouping

MATH MONKS

[1] Factor using the greatest common factor.

[a] $25u + 15v$

[b] $35p^4q + 14p^2q$

[c] $13u^3v^3 - 26uv^4 + 39u^2v^2$

[d] $33x^2y^3 - 11xy^2 + 22x^2y$

[e] $-15x^2 + 20xy^2$

[f] $5p^3 - 10p^2 + 3p$

[2] Factor by grouping.

[a] $5m^2 - 30mn + 2mn - 12n^2$

[b] $6p^2 - 42pd - 5pd + 35q^2$

[c] $11h^2 + 77h - 2h - 14$

[d] $13g^2 + 65g + 3g + 15$

[e] $a^3 + 2a^2 + 9a + 18$

[f] $96pq + 24pr - 84mq - 21mr$

[g] $6e^2f + 2ef^2 - 27e - 9f$

[h] $3st + 3s - 24t - 24$

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Answers

[1] Factor using the greatest common factor.

[a] $25u + 15v$

$5(5u + 3v)$

[b] $35p^4q + 14p^2q$

$7p^2q(5p^2 + 2)$

[c] $13u^3v^3 - 26uv^4 + 39u^2v^2$

$13uv^2(u^2v - 2v^2 + 3u)$

[d] $33x^2y^3 - 11xy^2 + 22x^2y$

$11xy(3xy^2 - y + 2x)$

[e] $-15x^2 + 20xy^2$

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

[f] $5p^3 - 10p^2 + 3p$

$p(5p^2 - 10p + 3)$

[2] Factor by grouping.

[a] $5m^2 - 30mn + 2mn - 12n^2$

$(5m + 2n)(m - 6n)$

[b] $6p^2 - 42pd - 5pd + 35q^2$

$(6p - 5q)(p - 7q)$

[c] $11h^2 + 77h - 2h - 14$

$(11h - 2)(h + 7)$

[d] $13g^2 + 65g + 3g + 15$

$(13g + 3)(g + 5)$

[e] $a^3 + 2a^2 + 9a + 18$

$(a + 2)(a^2 + 9)$

[f] $96pq + 24pr - 84mq - 21mr$

$3(8p-7m)(4q+r)$

[g] $6e^2f + 2ef^2 - 27e - 9f$

$(f + 3e)(2ef - 9)$

[h] $3st + 3s - 24t - 24$

$3(s - 8)(t + 1)$