Factoring GCF and Trinomials

1. Factor each completely.

[a] $x^2 - 15x + 56$

[b] $10n^2 + 14n - 12$

[c] $2a^2 + 3a - 9$

[d] $p^2 + p - 90$

[e] $3b^2 + 26b + 48$

[f] $g^2 + 2g - 35$

[g] $d^2 - 16d + 60$

[h] $4k^2 - 36k - 88$

2. Find the common factor(s) of each trinomial and rewrite them by taking out the GCF.

[a] $20x^4 + 50x^2 - 30x^3y$ =

[b] $18p + 14q - 20pq$ =

[c] $-70b^2 + 49ab^2 + 28b$ =

[d] $15m^2n^3 - 21mnp^2 - 9mn^3$ =

[e] $7r^4s^4t^2 + 35r^5s^4t - 28r^4s^4t$ =

[f] $g + 2gh^2 - 5g^3h$ =

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MATH MONKS

Answers

[a] $x^2 - 15x + 56$

$(x - 7)\ (x - 8)$

[b] $10n^2 + 14n - 12$

$(5n - 3)\ (2n + 4)$

[c] $2a^2 + 3a - 9$

$(a + 3)(2a - 3)$

[d] $p^2 + p - 90$

$(p + 10)(p - 9)$

[e] $3b^2 + 26b + 48$

$(3b + 8)(b + 6)$

[f] $g^2 + 2g - 35$

$(g - 5)(g + 7)$

[g] $d^2 - 16d + 60$

$(d - 6)(d - 10)$

[h] $4k^2 - 36k - 88$

$4(k + 2)(k - 11)$

2. Find the common factor(s) of each trinomial and rewrite them by taking out the GCF.

[a] $20x^4 + 50x^2 - 30x^3y = 10x^2(2x^2 + 5 - 3xy)$

[b] $18p + 14q - 20pq = 2(9p + 7q - 10pq)$

[c] $-70b^2 + 49ab^2 + 28b = 7b(-10b + 7ab + 4)$

[d] $15m^2n^3 - 21mnp^2 - 9mn^3 = 3mn(5mn^2 - 7p^2 - 3n^2)$

[e] $7r^4s^4t^2 + 35r^5s^4t - 28r^4s^4t = 7r^4s^4t(t + 5r - 4)$

[f] $g + 2gh^2 - 5g^3h = g(1 + 2h^2 - 5g^2h)$