

Factoring by Grouping

Clear Learning Target

You will be able to factor polynomials using grouping and greatest common factors.

Example #1: Factor by grouping.

① Group terms $(4qr + 8r) + (3q + 6)$

② factor each grp. $4r(q + 2) + 3(q + 2)$

③ Factor out common expression $(q + 2)(4r + 3)$

You Try! Factor by grouping.

$$(3np + 15p) - (4n - 20)$$

$$3p(n + 5) - 4(n + 5)$$

$$(n + 5)(3p - 4)$$

Example #2: Solve by factoring.

$$c^2 = 3c$$

① Clear everything from (R) side

② factor out GCF

③ Solve using Z.P.P.

$$c^2 = 3c$$

$$c^2 - 3c = 0$$

$$c(c-3) = 0$$

$$c = 0$$

$$c - 3 = 0$$

$$c = 3$$
You Try! Solve by factoring.

$$8b^2 - 40b = 0$$

$$8b(b-5) = 0$$

#1 #2

$$8b = 0$$

$$b = 0$$

$$b - 5 = 0$$

$$b = 5$$