

$$ax^2 + bx + c$$

$$3p^2 + 21p + 36$$

step 1 $3(p^2 + 7p + 12)$

step 2 $1 \cdot 12 = 12$

$1 \cdot 12$

$2 \cdot 6$

$3 \cdot 4$

step 3

step 4 $3(p^2 + 3p + 4p + 12)$

| | |
|-------|-------|
| p^2 | $+3p$ |
| $+4p$ | $+12$ |

step 5
(inside)

| | | |
|------|-------|-------|
| | $1p$ | $+3$ |
| $1p$ | p^2 | $+3p$ |
| $+4$ | $+4p$ | $+12$ |

step 6
(outside)
step 7

$$3(1p+4)(1p+3)$$

step 1 Pull out
Common factors
of all

step 2 multiply $a \cdot c$
then find factors

step 3 decide which
Set when
add/subtract
equals b

step 4 break b apart

step 5 Draw boxes
& put numbers
inside left \rightarrow rt
top to bottom

step 6 Find GCF of each
column & row

step 7 add signs
~~to~~ for b

step 8 write it out