

BE-Algebra I TUESDAY 2-1-11

- ① HSA \Rightarrow 6 vans, 11 buses, 632 students
HSB \Rightarrow 12 vans, 7 buses, 484 students.

EACH VAN or bus HAS SAME NUMBER OF STUDENTS.

Find: ^{NUMBER OF} STUDENTS IN EACH VAN or bus Let: $V =$ STUDENTS PER VAN
 $b =$ STUDENTS PER BUS

SOLVE

$$\begin{cases} 6v + 11b = 632 \\ 12v + 7b = 484 \end{cases}$$

• Homework review: Pg 499/10-12
35-38

How to tell if a quadratic
is prime:

$b^2 - 4ac$ is called the
discriminant because
it tells you what
type of solution you
have.

If $b^2 - 4ac$ is a perfect
square, (EX) 0, 4, 9, 16, 25, 36, ...
then the quadratic can be
factored.

3.
EX) Is $x^2 + x - 12$ prime?

$$a = 1 \quad b^2 - 4ac$$

$$b = 1 \quad ()^2 - 4()()$$

$$c = -12 \quad (1)^2 - 4(1)(-12)$$

$$1 + 48 = \underline{\underline{49}}$$

PERFECT SQUARE,
OK to factor

$$b = \text{sum} = 1$$

$$ac = \text{prod} = -12$$

$$\begin{array}{c} / \quad \backslash \\ -3 \quad +4 \end{array}$$

*USE SHORTEST
SINCE $a = 1$

$$\boxed{(x-3)(x+4)}$$

$$\underline{\underline{CK}} \quad (x-3)(x+4)$$

$$x^2 + 4x - 3x - 12$$

$$x^2 + x - 12 \quad \checkmark$$

Practice: Prime or NOT, if NOT, factor.

① $3a^2 + 8a + 4$

② $2a^2 - 11a + 7$

① $3a^2 + 8a + 4$

$a=3$ $b^2 - 4ac$

$b=8$ $(8)^2 - 4(3)(4)$

$c=4$ $64 - 48$

$16 \checkmark$

Sum $\Rightarrow 8$

Prod $\Rightarrow 12$

$\begin{matrix} \wedge \\ +2 \quad +6 \end{matrix}$

$(3a^2 + 2a) + (6a + 4)$

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

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

② $2a^2 - 11a + 7$

$a=2$ $b^2 - 4ac$

$b=-11$ $(-11)^2 - 4(2)(7)$

$c=7$ $121 - 56$

65 NOT Perfect Square \Rightarrow
Prime

Classwork/Homework: *Pg 499 # 14-25
Check $b^2 - 4ac$ first!