7-2:2-14

5.3

Ex 1 $\longrightarrow 3x^2 - 10x - 8$

(a) $4x^2 + 12x + 5$

$45 = 20$

$20 = 4 \cdot 5$

$2 \cdot 10$ stop

$x \cdot x$

$12x$

split up $4x^2 + 2x + 10x + 5$

$(4x^2 + 2x) + (10x + 5)$

$2x(2x+1) + 5(2x+1)$

5.3

(2)

(9) $(2x+1)\cdot(2x+5)$

$5x^2 \longrightarrow 10x^2+37x+7$

(11.) $15x^2-14x+3$

$15\cdot 3 = 45$

$45 = (-3)(-15)$ no

$= (-5)(-9)$

$15x^2 - 5x - 9x + 3$

$(15x^2 - 5x) - (9x - 3)$

5×3

(11) $5x(3x-1) - 3(3x-1)$

$5x$ = GCF GCF = 3

$(3x-1)\cdot(5x-3)$ It checks

Ex 3 → $24x^3 - 76x^2 + 40x$

(57) $18x^3 + 21x^2 - 9x$

$3x\cdot(6x^2 + 7x - 3)$

$6\cdot(-3) = -18$

$3x\cdot(6x^2 + 9x - 2x - 3)$

$3x\cdot([6x^2+9x] - [2x+3])$

$5x\cdot(3x[2x+3] - [2x+3])$

57.

(4

INSIDE JOB! (IGNORE OUTSIDE 3x)

$3x\cdot(2x+3)-(2x+3)$

$3x\cdot(2x+3)-(2x+3)\cdot 1$

$\$$ DOLLAR $=(2x+3)$

$(2x+3)\cdot[3x-1]$

INSIDE ANSWER $(2x+3)(3x-1)$

OUTSIDE: FINAL $3x\cdot(2x+3)(3x-1)$

EX 7 $\rightarrow 8x^3+22x^2-6x$

58. $\rightarrow 6x^3-4x^2-10x$

$2x(3x^2-2x-5)$

5.4 (37.) check:

$(3x-7)^2 = (3x-7)(3x-7)$

$\Rightarrow$ FOIL

$3x \cdot 3x - 3x \cdot 7 - 7 \cdot 3x + 7^2$

$9x^2 - 42x + 49$

(yes)

FOR REGULAR credit.

5.4

Exp | 1 (a) $x^2 - 4$

$\Rightarrow$ (51.) FACTOR this difference of SQUARES:

$x^2 - 100$

$100 = 10^2$

$x^2 = (x)^2$

$\Rightarrow (x+10)(x-10)$

regular credit

5.4

Ex 1

@ $x^2 + 6x + 9 = (x+3)(x+3)$

$= (x+3)^2$ yes

→ 11. $x^2 + 18x + 81$

sec. 5.2 $(x+9)(x+9)$

$= (x+9)^2$ yes

Ex 2 © $16x^2 - 40x + 25$

→ 37. $49 - 42x + 9x^2$

$9x^2 - 42x + 49 = (\ +\ )^2$ NO

wrong template

$= (3x - 7)^2$ yes

template

5.4

E.C.

Factor

$x^2 - 7$

state if prime.

7 is not a perfect square

E.C. Factor

5.3

46

$2x \cdot (3x^2 + 3x - 5x - 5)$

$3 \cdot (-5) = -15$ and $3 - 5 = -2$

$2x \cdot (3x^2 + 3x - 5x - 5)$

$2x \cdot (3x \cdot (x+1) - 5(x+1))$

$2x \cdot (3x - 5)(x+1)$