

$$\textcircled{1} \quad 9x^2 - 12x - 5 = -45 : -15, 3$$

$$\frac{(9x^2 + 3x)(-15x - 5)}{3x \quad 3x \quad -5 \quad -5}$$

$$3x(3x+1) - 5(3x+1) \rightarrow (3x-5)(3x+1)$$

#6 Factor out (x)

$$x(6x^2 - 13x - 5)$$

$$-30 : 1, 2, 3, 5, 6, 15, 30$$

$$x \frac{(6x^2 + 2x)(-15x - 5)}{+2x \quad -5}$$

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

$$\text{So } x=5 \quad L=5 \quad W=16 \quad H=5$$

$$\textcircled{3} \quad x^2 + 12x - 10 \rightarrow (x+5)(x-2) \quad 12+5=17 \quad 12-2=10$$

4) A)  $(x+2)(x+1)$    B)  $(x+3)(x+2)$    C)  $(x+2)(x+6)$    D)  $(s+5)(s-2)$

e) Factor out 3  $\rightarrow 3(m^2 - 7m + 10) \rightarrow 3(m-2)(m-5)$    f)  $(f-6)(f-1)$

g)  $(g-7)(g+2)$    h)  $(a-4b)(a+1b)$    i) Factor out 2.

$$2(x^2 - 7x + 12) \rightarrow 2(x-4)(x-3)$$

5) A)  $x(x+5)$    B)  $(y+6)(y+3)$    C)  $\sqrt{5x^2 + 13x - 6}$     $-30 : 1, 2, 3, 5, 6, 10, 15, 30$

$$\frac{(5x^2 + 15x)(-2x - 6)}{5x \quad 5x \quad -2 \quad -2} \rightarrow 5x(x+3) - 2(x+3) = (x+3)(5x-2)$$

D) Factor out 3  $\rightarrow 3(x^2 + 6x + 9) = 3(x+3)(x+3) = 3(x+3)^2$

e)  $(x+4y)(x+4y)$    f)  $3xy(x+2)$    g)  $2x^3 - 6$     $\frac{(2m^2 + 6mn) + (1mn + 3n^2)}{2m \quad n}$

h)  $(2a-5)(2a+3)$

$$2m(m+3n) \quad 1n(m+3n)$$

I) Factor out 2.

$$(2m+n)(m+3n)$$

$$2(x^2 + 4x - 24) \rightarrow 2(x+7)(x-3)$$