

P. 186 # 7a)  $(x+2y)(x-2y)$

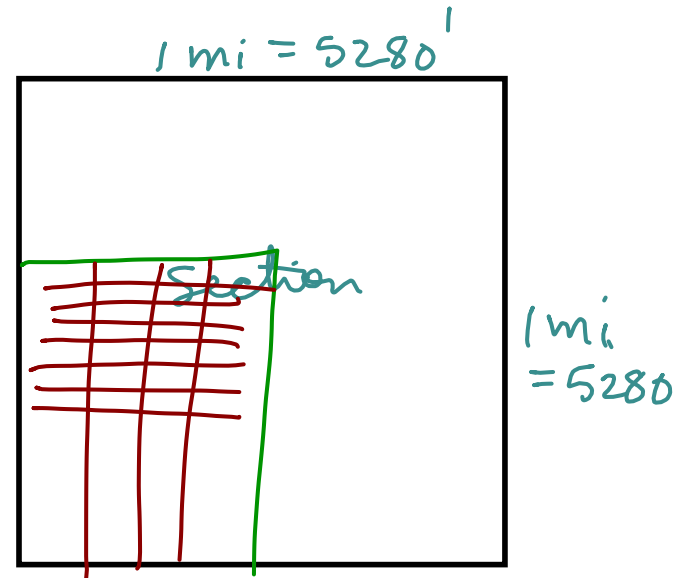
$$= x^2 - 2xy + 2xy - 4y^2$$

$0xy = 0$

$$1xy = xy$$

3.1 takeup #20

20.

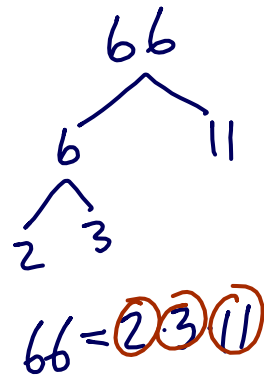
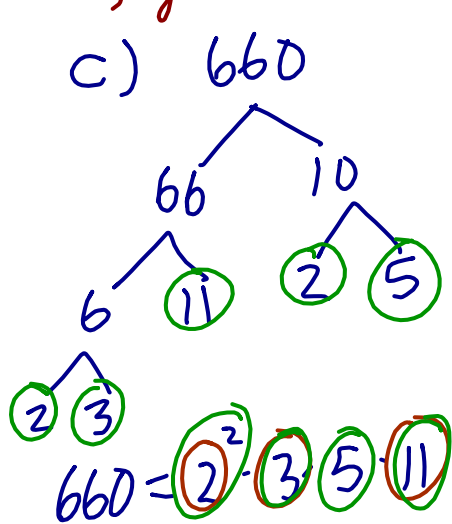


$$a) \frac{5280}{660} = 8 \div 2 = 4$$

$$\frac{5280}{66} = 80 \div 2 = 40$$

yes... 5280 is a common multiple of 660 and 66.

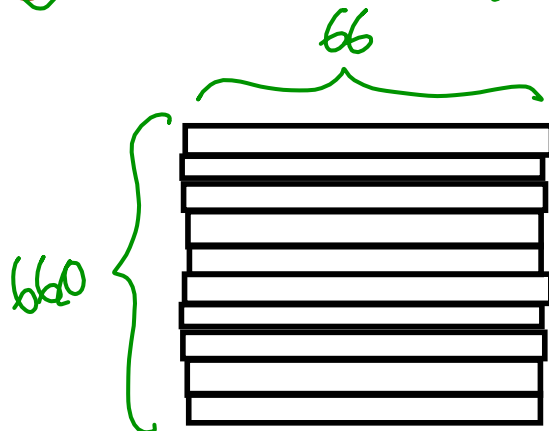
b) yes



$$GCF = 2 \cdot 3 \cdot 11 = 66$$

$$LCM = 2^2 \cdot 3 \cdot 5 \cdot 11 = 660$$

∴ The smallest square measures 660 x 660



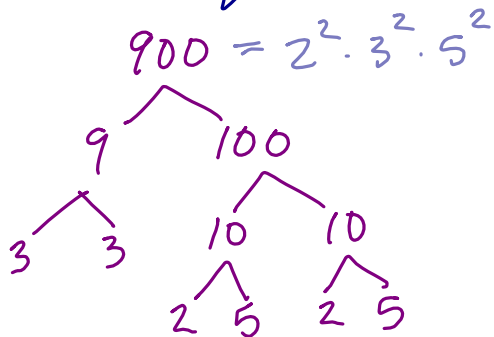
3.2

to get a square root

- ① prime factor
- ② use  $\frac{1}{2}$  of each prime number as the square root.

ex //  $\sqrt{900}$

$$\begin{aligned} \therefore \sqrt{900} &= 2 \cdot 3 \cdot 5 \\ &= 30 \end{aligned}$$

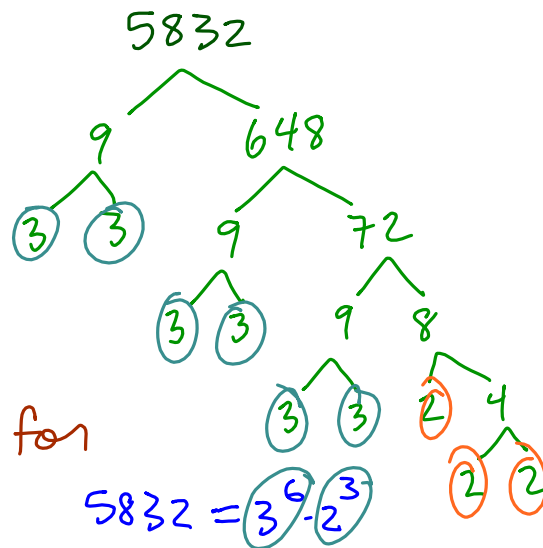


\* To get a cube root, take a  $\frac{1}{3}$  of each prime factor

ex //  $\sqrt[3]{5832}$

$$5832 = 3^6 \cdot 2^3$$

$$\begin{aligned} \sqrt[3]{5832} &= 3^2 \cdot 2 \\ &= 18 \end{aligned}$$



GCF and LCM for

$$900 = 2^2 \cdot 3^2 \cdot 5^2$$

$$5832 = 3^6 \cdot 2^3$$

$$\text{GCF} = 2^2 \cdot 3^2 = 36$$

$$\begin{aligned} \text{LCM} &= 2^3 \cdot 3^6 \cdot 5^2 \\ &= (5832)(25) \\ &= 145800 \end{aligned}$$

### 3.7 Multiplying Polynomials : distribution

ex.  $(x+2)(a+b-3)$

$$= xa + xb - 3x + 2a + 2b - 6$$

there are no like terms to combine

	a	b	-3
x	xa	xb	-3x
2	2a	2b	-6

$$= xa + xb - 3x + 2a + 2b - 6$$

6 terms

\* We must multiply each term in the first *polynomial* by each term in the second *polynomial*

ex.  $(2a-5)(3a^2-a+4)$

$$= 6a^3 - 2a^2 + 8a - 15a^2 + 5a - 20$$

$$= 6a^3 - 17a^2 + 13a - 20$$

ex.  $(x+2)^2(x^2-5x-3)$

$$= [(x+2)(x+2)](x^2-5x-3)$$

$$= [x^2 + 2x + 2x + 4](x^2-5x-3)$$

$$= (x^2 + 4x + 4)(x^2 - 5x - 3)$$

$$(x+2)^2 \neq x^2+4$$

$$= x^4 - 5x^3 - 3x^2 + 4x^3 - 20x^2 - 12x + 4x^2 - 20x - 12$$

$$= x^4 - x^3 - 19x^2 - 32x - 12$$

ex. Expand and simplify

$$\begin{aligned} \text{a) } & [(2x - 4)(3x + y - 1)] - (3x + 2y)^2 \\ &= [6x^2 + 2xy - 2x - 12x - 4y + 4] - [(3x + 2y)(3x + 2y)] \\ &= [6x^2 + 2xy - 14x - 4y + 4] - [9x^2 + 6xy + 6xy + 4y^2] \\ &= 6x^2 + 2xy - 14x - 4y + 4 - 9x^2 - 12xy - 4y^2 \\ &= -3x^2 - 10xy - 14x - 4y - 4y^2 + 4 \end{aligned}$$

*they all change signs*

$$\begin{aligned} \text{b) } & 2(a + b)(2a - 3b) - (a - 2b)(2a + b) \\ &= [(2a + 2b)(2a - 3b)] - [(a - 2b)(2a + b)] \\ &= [4a^2 - 6ab + 4ab - 6b^2] - [2a^2 + ab - 4ab - 2b^2] \\ &= [4a^2 - 2ab - 6b^2] - [2a^2 - 3ab - 2b^2] \\ &= 4a^2 - 2ab - 6b^2 - 2a^2 + 3ab + 2b^2 \\ &= 2a^2 + ab - 4b^2 \end{aligned}$$