TT F3 Chapter 1-4 Revision

Revision - Chapter 1-4.2

Name: _____ ( ) Class:_____ Date:_____

Factorize each of the following expressions.

1. $b^2 - 12b + 11$

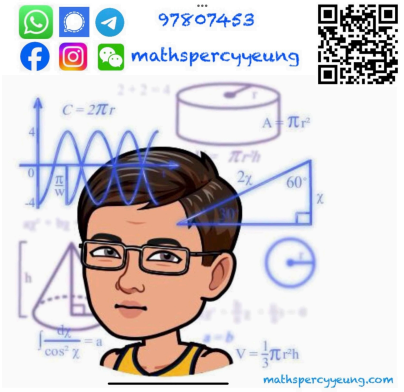
2. $3x^3 + 17x^2 - 56x$

3. $\dfrac{a^{-2}(b^{-5})^0}{(a^{-3}b^7)^2}$

4. $\left(\dfrac{4x^3}{y}\right)^{-1}\left(\dfrac{3x^2}{y^{-3}}\right)^2$

5. Convert each of the following denary numbers to a binary number.

   (a) 19 (b) 31



6. Convert each of the following binary numbers to a denary number.

   (a) 11010_2 (b) 1001_2

7. The Lee's family has 6 members. The ages of 5 of them are 6, 10, 32, 38 and 70. If the average age of the Lee's family is greater than 27, find the minimum age of the remaining member.

8. Rosa has 5 more stickers than twice the numbers of stickers that Mandy has. If they have at most 70 stickers altogether, find the maximum number of stickers that Mandy has.

9. The number of a kind of shark was 200 000 in 2004. Due to overfishing, its number decreased by 40% every two years.
   (a) Find its number in 2010.
   (b) Find the decrease in its number from 2010 to 2014.

***10. Sam goes running on a day. Before rest, he runs at a constant speed for 1.5 hours. After rest, he increases his running speed by 1 km/h and runs for 2 hours. Can Sam run at 8 km/h before rest if he wants to run at least 32 km in total? Explain your answer.