

Three numbers are consecutive terms in an arithmetic sequence.
 They add to give 45 and when they are multiplied together we get 2640.
 What are the three numbers?

$$\begin{array}{c} \text{+d} \quad \text{+d} \\ \curvearrowright \quad \curvearrowright \\ \dots, U_n, U_{n+1}, U_{n+2}, \dots \\ \dots, U_n, U_n + d, U_n + 2d, \dots \end{array}$$

$$U_n + U_{n+1} + U_{n+2} = 45$$

$$U_n \times U_{n+1} \times U_{n+2} = 2640$$

$$U_n + U_n + d + U_n + 2d = 45$$

$$3U_n + 3d = 45$$

$$3(U_n + d) = 45$$

$$U_n + d = 15$$

$$\begin{array}{c} \dots, U_n, U_n + d, U_n + 2d, \dots \\ \dots, 15 - d, 15, 15 + d, \dots \end{array}$$

$$(15 - d)(15)(15 + d) = 2640$$

$$15(15 - d)(15 + d) = 2640$$

$$(15 - d)(15 + d) = \frac{2640}{15}$$

$$(15 - d)(15 + d) = 176$$

$$225 - d^2 = 176$$

$$49 = d^2$$

$$d = \pm 7$$

$$\dots, 8, 15, 22, \dots$$