(d) : Let first term be 'a' and common difference be 'd'.

Also, $S_4 = \frac{1}{5}(S_8 - S_4)$

$\Rightarrow \quad 5S_4 = S_8 - S_4 \quad \Rightarrow \quad S_8 = 6S_4$

$\Rightarrow \quad \frac{8}{2}[2\times 3 + 7\times d] = 6\times \frac{4}{2}[2\times 3 + 3\times d] \qquad [\because \quad a = 3]$

$\Rightarrow \quad 6 + 7d = 18 + 9d \quad \Rightarrow \quad 2d = -12 \quad \Rightarrow \quad d = -6$

$\therefore \quad S_{20} = \frac{20}{2}[2\times 3 + (19)\times -6] = 10\,[-108] = -1080$