1.78 g 1.08 g x g

$Ca(OH)_2 + 2\ HCl = CaCl_2 + 2\ H_2O$

74 g 2*36.5 111

M ($Ca(OH)_2$) = 74, M (HCl) = 36.5, M ($CaCl_2$) = 111.

n ($Ca(OH)_2$) = 1.78/ 74 = 0.024 moles

n (HCl) = 1.08/ 36.5 = 0.0296 moles

According to equation $Ca(OH)_2$: HCl = 1:2, so we have extra moles of $Ca(OH)_2$

That's why we calculate theoretic mass of $CaCl_2$ using data of HCl

x = 1.08*111/2*36.5 = 1.642 g – mass of $CaCl_2$

% yield of $CaCl_2$ = 1.38 *100%/1.642 = 84 %

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