



NOT TO  
SCALE

$ABCD$  is a parallelogram.

$\vec{AB} = \mathbf{m}$  and  $\vec{AD} = \mathbf{p}$ .

$F$  is a point on  $BC$  and  $BF = 4FC$ .

$E$  is a point on  $AD$  and  $AE : ED = 1 : 2$ .

(a) Find  $\vec{EF}$ , in terms of  $\mathbf{m}$  and  $\mathbf{p}$ , in its simplest form.

..... [3]

(b)  $EF$  and  $DC$  are extended to meet at the point  $G$ .

Find  $\vec{CG}$ , in terms of  $\mathbf{m}$  and/or  $\mathbf{p}$ , in its simplest form.