

Force Diagrams and Acceleration

Find any missing forces, masses and accelerations in each of the diagrams.

(a)	(b)	(c)	(d)
<p style="text-align: center;"> 2 ms^{-2} $4g \text{ N}$ 12 N ← 4 kg → 20 N $4g \text{ N}$ </p>	<p style="text-align: center;"> 4 ms^{-2} $3g \text{ N}$ 15 N ← 3 kg → 3 N $3g \text{ N}$ </p>	<p style="text-align: center;"> 2 ms^{-2} $6g \text{ N}$ 21 N ← 6 kg → 9 N $6g \text{ N}$ </p>	<p style="text-align: center;"> 6 ms^{-2} $3.5g \text{ N}$ 19 N ← 3.5 kg → 40 N $3.5g \text{ N}$ </p>
(e)	(f)	(g)	(h)
<p style="text-align: center;"> 7 ms^{-2} $2g \text{ N}$ 12 N ← 2 kg → 60 N 34 N ← $2g \text{ N}$ </p>	<p style="text-align: center;"> 3.5 ms^{-2} $8g \text{ N}$ 7 N ← 8 kg → 28 N 49 N ← $8g \text{ N}$ </p>	<p style="text-align: center;"> 13.6 N 2 kg $2g \text{ N}$ 3 ms^{-2} </p>	<p style="text-align: center;"> 72 N 4 kg $4g \text{ N}$ 8.2 ms^{-2} </p>
(i)	(j)	(k)	(l)
<p style="text-align: center;"> 73.6 N 50 N 12 kg $12g \text{ N}$ 0.5 ms^{-2} </p>	<p style="text-align: center;"> 33.2 N 4 kg $4g \text{ N}$ 15 N 2.25 ms^{-2} </p>	<p style="text-align: center;"> 36 N 20 kg $20g \text{ N}$ 8 ms^{-2} </p>	<p style="text-align: center;"> 35.4 N 4.5 kg $4.5g \text{ N}$ 2.1 N 2.4 ms^{-2} </p>