Mark schemes

Q1.

(a)   moment = force × distance

or

$M = F \times d$

1

(b)   7.5 cm = 0.075 m

1

$M = 2.0 \times 0.075$

> *allow a correct substitution of an incorrectly / not converted value of d*

1

$M = 0.15$ (Nm)

> *allow an answer consistent with an incorrectly / not converted value of d*

1

(c)   gear B rotates in the opposite direction (to gear A)
or
gear B rotates clockwise
or
gear B rotates faster than gear A

1

(because) gear A exerts a force on gear B
or
(because) gear A causes a moment about the pivot of gear B

1

[6]