

Chapter 17

Exercise 17A

- 1 a painful
b slightly challenging
c easy
d slightly challenging
- 2 a a and b are OK
- 3 a 0.43
b france not as steep, 0.3
- 4 a Not safe, 0.125
b 12.5m
c Takeoff under power.
- 5 a 8.77m
b 4.39
c No – too near wall.
d 2.18m
- 6 a No
b Yes
c Yes
d Yes
- 7 a Yes
b Yes
c No. Note typo
d Yes
- 8 a 0.549
b (i) 1915.06m
(ii) 0.24
c Aberystwyth; greater gradient
d Cairngorm
- 9 a (ii) is OK
b Hover mower on a rope.
- 10 a OK
b not OK
c not OK

Exercise 17B

- 1 a (i) £21
(ii) £30
(iii) £36.50
b 4, 2, 1
c Up to 2.5. Threshold costs same as for big package.
d Heavier costs don't vary so much.
e As c above, smaller packages less profitable.
- 2 a 39.2°C
b 0.37, 0.6, -0.125, -0.35, 0
c (i) 4 – 6, max gradient
(ii) 8 – 9, min gradient
d Rapidness of temperature change.
e (i) fourth
(ii) 1
f 37°C
g Stabilised at normal.
- 3 a 0.096, -0.011, 0.10, -0.059, 0.091, -0.21, -0.12, -0.069
b (i) BC, highest gradient
(ii) FG, lowest gradient
c Steepness of hill.
d AM
- 4 a 200, 0, ≈857, Ω154, 0, 500
b 2–2.7 minutes
c Cab has stopped in traffic
d £4.60
e (i) £8.20
(ii) £3.60 depending on estimated cost of the student
(iii) Less taxi drivers work unsociable hours so costs are higher
- 5 a (i) 1
(ii) -1
(iii) -0.5
b 4, between 07:00 and 08:00
c After 22:00, no gradient.

- 6 a** (i) -6000
(ii) -12000
(iii) 4000
b 2012 – 2013, £12000 rise
c 2011 – 2012 £12000 fall

- 7 a** (i) -5.71 m/min
(ii) -2 m/min
(iii) 9 m/min
b 40 min – 50 min
c Faster on way up – steepest gradient.

Activity – exercise for student