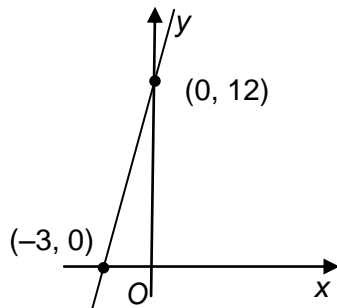**Student name:** _____

Multiple-choice questions

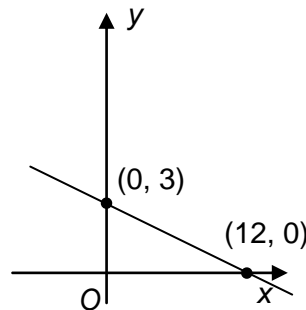**1**   The equation of a straight line is $y = 3 - 7x$.

When $x = 2$, y equals:

A   −14

B   −11

C   3

D   11

E   17

2   The equation of a straight line is $y = -12 - 5x$. The y-intercept is:

A   −12

B   −5

C   5

D   12

E   7

3   The equation of a straight line is $y + 3x = 12$. The slope is:

A   −4

B   −3

C   3

D   12

E   15

4   The slope of the line passing through the points (17, 34) and (25, 10) is:

A   −3

B   −2

C   0.3

D   3

E   5.5

5   The graph of $y = 12 - 4x$ is:
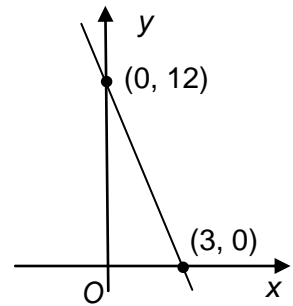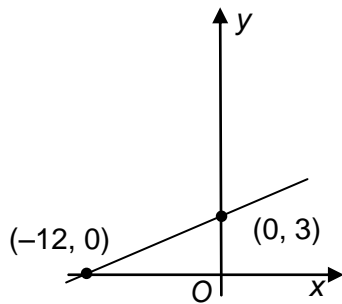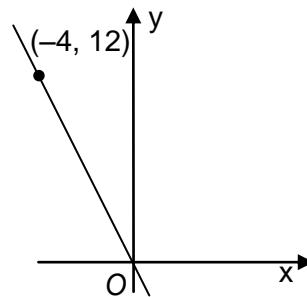
A

(0, 12)

(−3, 0)

O

x

y

B

(0, 3)

(12, 0)

O

x

y

C

(0, 12)

(3, 0)

O

x

y

D

(−12, 0)

(0, 3)

O

x

y

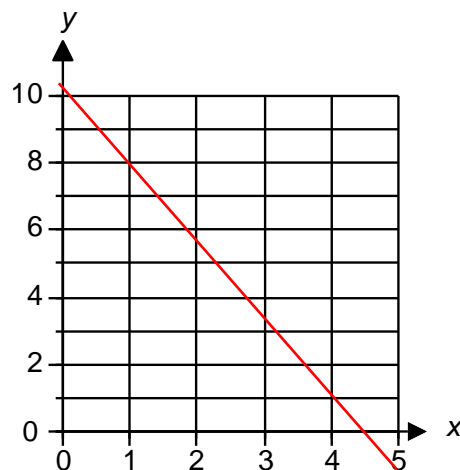**E**

(−4, 12)

O

x

y

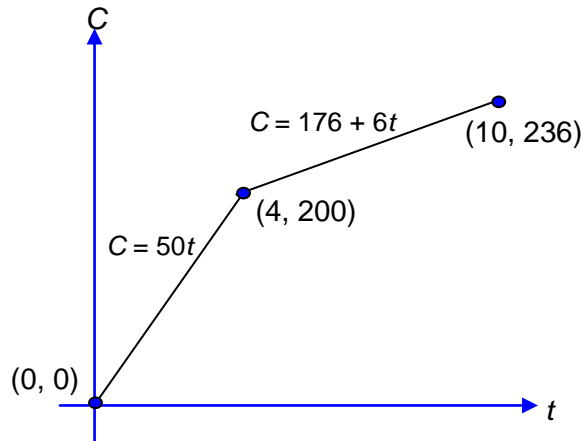**6**   The slope of the graph below is closest to:

A   −2.5

B   −2.7

C   −2.3

D   −2.0

E   −1.8

7   For the segmented graph below, when $t = 5$, C equals:

A   200

B   204

C   205

D   206

E   250

8   The equation of the line segment for $4 \le t \le 9$ is:
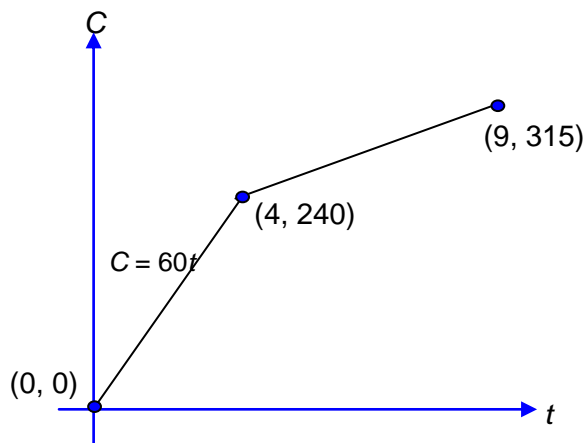
A $C = 60t$
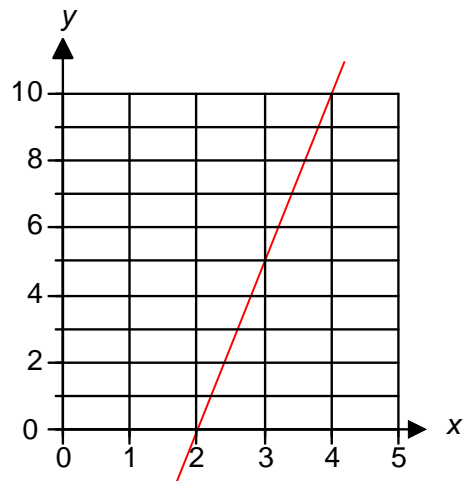
B $C = 180 + 60t$

C $C = 240 + 60t$

D $C = 180 + 15t$

E $C = 240 + 15t$

9   The equation of the graph shown below is:
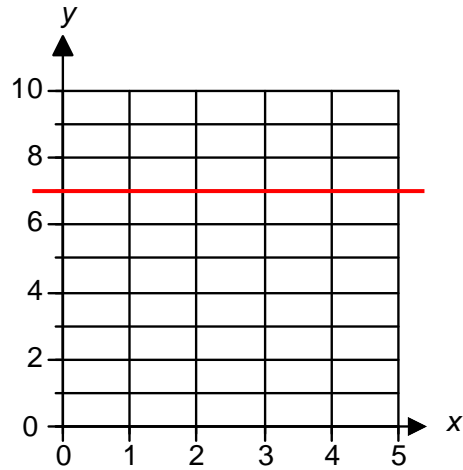
A $x = 7$

B $x + y = 7$

C $y = 7$

D $y = 7x$

E $x = 7y$

10   The equation of the graph shown below is:
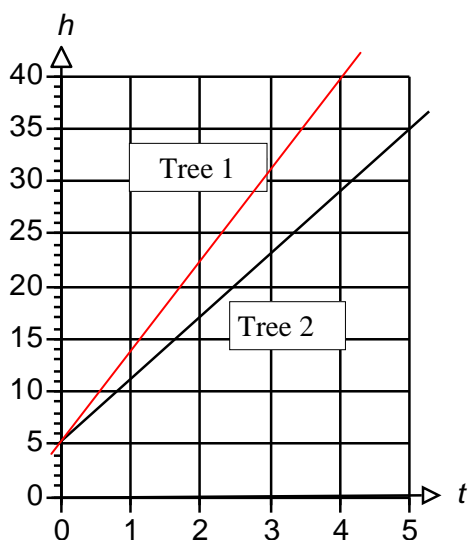

A $y = 2.5x - 10$

B $y = 2.5x + 10$

C $y = 5x - 10$

D $y = 5x + 10$

E $y = 10 - 5x$

11   Which of the following points lie on the line $y = 2x - 12$?

    A   (0, 0)

    B   (2, –12)

    C   (2, –10)

    D   (2, –8)

    E   (2, 14)

12   The graph below shows the height h (in cm) of two seedling trees after time t (months).

Which of the following statements related to the growth of the two trees is **not** true?

    A   Both trees were initially approximately the same height.

    B   Tree 1 grew at a faster rate than tree 2.

    C   After 3 months tree 1 was around 9 cm taller than tree 2.

    D   Over the five-month period, tree 1 grew at around 9 cm a month.

    E   Over the five-month period, tree 2 grew at around 4 cm a month.

Extended-response questions

1   The value of a car V (dollars) depreciates with time t (years) according to the rule

$V = 25\,000 - 3500t$

  a   What was the initial value of the car?

  b   How much did the car depreciate in value each year?

  c   What was the value of the car after 5 years?

  d   Following this rule, how many years will it take for the car's value to depreciate to zero, to 1 decimal place?

  e   Sketch a graph showing how the car's value depreciated with time. Label axes and mark in the x and y intercepts.

2   The weights W (in kg) of a number of women at the age of 21 are shown plotted against their birth weight B (in kg). Also shown is the line of best fit.
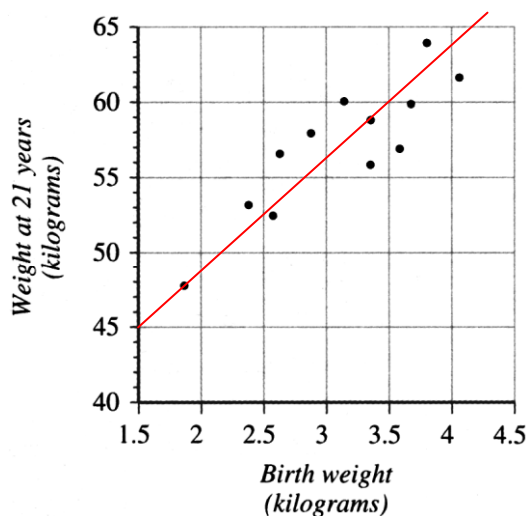
  a   Find the equation of the line of best fit in terms of W and B.

  b   Use the equation to predict the weight of a woman whose birth weight was 3 kg.

  Complete the following sentence by filling in the box.

  c   The equation of the line of best fit tells us that, on average, for each additional kilogram in birth weight, a woman's weight increased by ☐ kg.
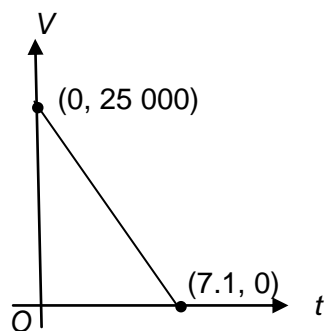
Chapter 6 test 1 answers

Multiple-choice questions

1 B

2 A

3 B

4 A

5 C

6 C

7 D

8 D

9 C

10 C

11 D

12 E

Extended-response questions

1   **a** $25\,000

       b $3500

       c $7500

       d   7.1 years

       e

2   **a** $W = 33.75 + 7.5B$

       b   56.25 kg

       c   7.5