Question 1: If \(a = 7\) \(b = 10\) \(c = 3\) \(d = 8\) and \(e = 15\)
Find the value of each expression.

(a) \(a + 5\) \hspace{1cm} (b) \(b - 4\) \hspace{1cm} (c) \(c + d\) \hspace{1cm} (d) \(e - d\)
(e) \(2a\) \hspace{1cm} (f) \(4b\) \hspace{1cm} (g) \(3e\) \hspace{1cm} (h) \(5c\)
(i) \(\frac{b}{2}\) \hspace{1cm} (j) \(\frac{e}{5}\) \hspace{1cm} (k) \(\frac{d}{4}\) \hspace{1cm} (l) \(\frac{a}{2}\)
(m) \(a^2\) \hspace{1cm} (n) \(b^2\) \hspace{1cm} (o) \(c^2\) \hspace{1cm} (p) \(d^2\)
(q) \(2a + 1\) \hspace{1cm} (r) \(3b - 7\) \hspace{1cm} (s) \(9c + 11\) \hspace{1cm} (t) \(4e - 45\)
(u) \(2a + 3c\) \hspace{1cm} (v) \(4d - b\) \hspace{1cm} (w) \(5a + 2d\) \hspace{1cm} (x) \(e - 4c\)
(y) \(30 - 4a\) \hspace{1cm} (z) \(15 - 3c\)

Question 2: If \(f = 5\) \(g = 6\) \(h = 4\) and \(i = 2\)
Find the value of each expression.

(a) \(fg\) \hspace{1cm} (b) \(hi\) \hspace{1cm} (c) \(fgh\) \hspace{1cm} (d) \(i^3\)
(e) \(\sqrt{h}\) \hspace{1cm} (f) \(3f + 2g\) \hspace{1cm} (g) \(5h + 7i\) \hspace{1cm} (h) \(9h - 7i\)

Question 3: If \(a = -2\) \(b = 5\) \(c = -6\) \(d = 10\) and \(e = 9\)
Find the value of each expression.

(a) \(a + 4\) \hspace{1cm} (b) \(b - 8\) \hspace{1cm} (c) \(c + e\) \hspace{1cm} (d) \(a - d\)
(e) \(d - c\) \hspace{1cm} (f) \(2c\) \hspace{1cm} (g) \(7a\) \hspace{1cm} (h) \(-7b\)
(i) \(2d + 3c\) \hspace{1cm} (j) \(6e + 3a\) \hspace{1cm} (k) \(5a + 7\) \hspace{1cm} (l) \(20 + 4a\)
(m) \(ac\) \hspace{1cm} (n) \(40 - d\) \hspace{1cm} (o) \(2e - a\) \hspace{1cm} (p) \(bd + a\)
(q) \(\frac{a}{2}\) \hspace{1cm} (r) \(\frac{d}{4}\) \hspace{1cm} (s) \(\sqrt{e}\) \hspace{1cm} (t) \(c^2\)

© CORBETTMATHS 2016
Question 4: If \( a = 1.5 \quad b = 4 \quad c = 6 \quad d = 0.5 \quad \text{and} \quad e = -3 \)
Find the value of each expression.

(a) \( 4(a + d) \)
(b) \( 5(c + b) \)
(c) \( 3(10 - e) \)
(d) \( abc \)

(e) \( e^3 \)
(f) \( d^2 \)
(g) \( 5b^2 \)
(h) \( 8e^2 + 3 \)

(i) \( \frac{b + 2}{3} \)
(j) \( \frac{2c - e}{4} \)
(k) \( \frac{10d + 4b}{7} \)

Question 5: \( P = 2L + 2W \), work out \( P \) if \( L = 8 \) and \( W = 3 \).

Question 6: \( C = 15h + 30 \), work out \( C \) if \( h = 6 \).

Question 1: The cost of hiring a car for a number of days is calculated using the formula

\[
\text{Hire Cost} = 30 \times \text{Number of Days} + 50
\]

(a) Calculate the cost of hiring a car for 4 days.
(b) Calculate the cost of hiring a car for 9 days.
(c) The hire cost is £110, how many days was the car hired for?
(d) The hire cost is £380, how many days was the car hired for?

Question 2: The cost of photocopying is given as:

\[
\text{Cost in pence} = 3 \times \text{number of black & white pages} + 15 \times \text{number of colour pages}
\]

(a) Ella orders 20 black & white pages and 6 colour pages, work out the cost.
(b) Tom orders 400 black & white pages and 70 colour pages, work out the cost.

Question 3: The time in minutes, taken to cook a chicken is given by the formula

\[
\text{Time} = 40 \text{ minutes per kilogram} + 20 \text{ minutes}
\]

(a) Work out the time taken to cook a 5kg chicken.
(b) Work out the time taken to cook a 2.5kg chicken.
Question 4: This formula is used to calculate the weekly pay of a letting agent.

Weekly pay = basic pay + number of houses rented x bonus

The basic pay is £400 and a bonus of £75 is paid for each house rented.
Mrs Lewis rents out 5 houses in one week.
Calculate her pay.

Question 5: This formula can be used to convert between Celsius and Fahrenheit:

\[ F = 1.8C + 32 \]

(a) Work out the value of F when C = 10  
(b) Work out the value of F when C = 20  
(c) Work out the value of F when C = 4  
(d) Work out the value of C when F = 35.6  
(e) Work out the value of C when F = 41  
(f) Work out the value of C when F = 112  
(g) Find a temperature when F and C are the same value.