Substitution

Using and Applying

1) If a = 4, b = 2 and c =3, what is the value of the following expressions?

a) a + b

b) b – c

c) ab + c

d) c - b

e) ab + ac

f) a^2

g) $\frac{c}{4}$ Give your answer as a decimal.

h) $\frac{b}{2}$

i) 2a + 3c

j) 4c – 25

2) If a = 5, b = -2 and c = -8, what is the value of the following expressions?

a) 7a

b) 5a + 7

c) -7b

d) 2a + 3c

e) 6a + 3b

f) a – b

g) b^2

h) $\frac{a - b}{2}$

i) b(a – c)

j) a (b + c) + c(a + b)

k) (a + b)(a + c)

3) If a = 2.5 b = 2 c = 0.5 d = -4

a) 2a + b

b) $\frac{b + d}{c}$

c) ac

d) $\sqrt{b/c}$

e) d^2

f) $2d^2$

g) $\frac{a + d}{c}$

h) $ac + bd$

i) $ac - bd$

j) bc^2

k) $2ab^3 \div c$

l) $(ab)^2 - ab^2$

Reasoning

1) Tom says that if $a = -3$ then $a^2 = -9$. Explain why Tom is incorrect.

2) $t = s + ab$

What is the value of s when $t = 80$, $a = 2$ and $b = 10$

3) You can convert temperatures between Fahrenheit and Celsius using the formula:

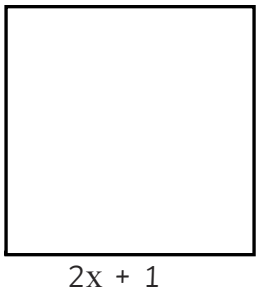
$F = 1.8C + 32$

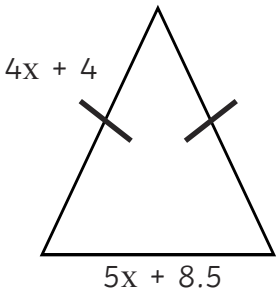
a) If it is 41 Fahrenheit today, what is the temperature in Celsius?

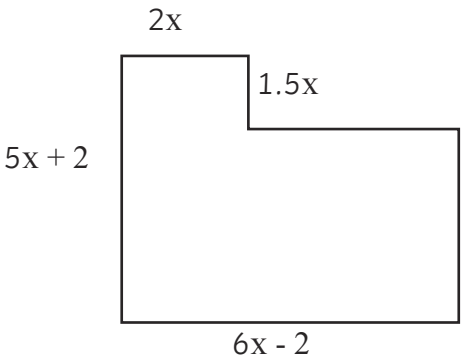
b) Is there a temperature at which Fahrenheit and Celsius are the same?

Problem Solving

Find the area and perimeter of the following shapes when $x = 1.5$cm







Super Challenge

Sam has a problem. He reads that two fractions add up to 1 but the difference between them is $\frac{3}{4}$. He has written down:

$a + b = 1$

$a - b = \frac{3}{4}$

He also knows that the denominator for both a and b is 8. Can you use substitution to solve his problem?