Using number strategies to solve equations

AC
EA
AA
AM
AP

Strategic Solving – Part II

We are using number strategies to solve linear equations with decimal fractions.

Exercise 1 – Finding *x*.

What to do:
1) Rewrite the equation in a way that will help you find the x that makes the equation true.
2) Clearly explain the strategy you use to solve this equation.
3) Give the value of x that makes the equation true.

e.g. Equation: $7.4 = x + 3.8$
Alternative: $x = 7.4 - 3.8$
Strategy: $7.4 - 3 = 4.4; 4.4 - 0.8 = 3.6$
Solution: $x = 3.6$

1)	$0.8 + x = 9.2$	(2)	$x + 0.9 = 100.7$	(3)	$9.2 = x + 2.4$
4)	$52.3 - x = 48.9$	(5)	$76.5 = 130.1 - x$	(6)	$x - 19.9 = 60.5$
7)	$999.9 = 888.8 + x$	(8)	$x - 160.7 = 42.3$	(9)	$7200 - x = 6900.4$
10)	$0.95 = 0.35 + x$	(11)	$5.81 = 7.1 - x$	(12)	$62.62 = x - 47.38$
13)	$1.47 + x = 15.59$	(14)	$x - 110.25 = 270.85$	(15)	$360.11 - x = 300.18$
16)	$9000.59 + x = 10000.73$	(17)	$x - 12.34 = 98.76$	(18)	$5.555 - x = 2.123$
19)	$0.0005 + x = 0.01$	(20)	$x - 1.000001 = 499999.9$	(21)	$440.04 - x = 404.44$
22)	$147.147 + x = 741.741$	(23)	$x - 3.75 = 0.215$	(24)	$10000000 - x = 0.999995$

Exercise 2 – Writing word problems

Select 10 of these equations and write a word problem that the equation could be used to solve.

Answers:

Exercise 1

1)
$x = 9.2 - 0.8$
$x = 8.4$

(2)
$x = 100.7 - 0.9$
$x = 99.8$

(3)
$x = 9.2 - 2.4$
$x = 6.8$

4)
$x = 52.3 - 48.9$
$x = 3.4$

(5)
$x = 130.1 - 76.5$
$x = 53.6$

(6)
$x = 60.5 + 19.9$
$x = 80.4$

7)
$x = 999.9 - 888.8$
$x = 111.1$

(8)
$x = 42.3 + 160.7$
$x = 203$

(9)
$x = 7200 - 6900.4$
$x = 299.6$

10)
$x = 0.95 - 0.35$
$x = 0.6$

(11)
$x = 7.1 - 5.81$
$x = 1.29$

(12)
$x = 62.62 + 47.38$
$x = 110$

13)
$x = 15.59 - 1.47$
$x = 14.12$

(14)
$x = 270.85 + 110.25$
$x = 381.1$

(15)
$x = 360.11 - 300.18$
$x = 59.93$

16)
$x = 10000.73 - 9000.59$
$x = 1000.14$

(17)
$x = 98.76 + 12.34$
$x = 111.1$

(18)
$x = 5.555 - 2.123$
$x = 3.432$

19)
$x = 0.01 - 0.0005$
$x = 0.0095$

(20)
$x = 499999.9 + 1.000001$
$x = 500000.900001$

(21)
$x = 440.04 - 404.44$
$x = 35.6$

22)
$x = 741.741 - 147.147$
$x = 594.594$

(23)
$x = 0.215 + 3.75$
$x = 3.965$

(24)
$x = 10000000 - 0.999995$
$x = 9999999.000005$