Rautaki Tauoti
TE WHAKAMAHI RAUTAKI TAU 1

E ako ana ahau ki te whakamahi rautaki tau hei whakaoti rapanga e whai wāhi mai ana te tauoti.

Hei Mahi 1

Hei tauira:
Koia nei ngā tāpiritanga me ngā tangohanga e noho whanaunga mai ana ki te whārite
$150 + 250 = 400$:

$\boxed{150 + 250 = 400}$ $250 + 150 = 400$ $400 = 150 + 250$ $400 = 250 + 150$

$400 - 250 = 150$ $400 - 150 = 250$ $150 = 400 - 250$ $250 = 400 - 150$

Ngā tohutohu:
Whakautua ngā pātai e whai ake nei.

1) Tuhia ngā tāpiritanga me ngā tangohanga e noho whanaunga mai ana ki te whārite
$58 + 39 = 97$

2) a) Tuhia ngā tāpiritanga me ngā tangohanga e noho whanaunga mai ana ki te whārite $23 + x = 78$

   e) Ko ēhea o ēnei whārite hei āwhina i a koe ki te whiriwhiri i te x?

   h) Whakamahia tētahi o ngā whārite, ka whiriwhiri ai i te x.

3) Tuhia ngā tāpiritanga me ngā tangohanga e noho whanaunga mai ana ki te whārite
$87 - 29 = 58$

4) a) Tuhia ngā tāpiritanga me ngā tangohanga e noho whanaunga mai ana ki te whārite $99 - x = 22$

   e) Ko ēhea o ēnei whārite hei āwhina i a koe ki te whiriwhiri i te x?

   h) Whakamahia tētahi o ngā whārite, ka whiriwhiri ai i te x.

5) a) Tuhia tāu ake tāpiritanga e whai wāhi mai ana te *x*.
    e) Tuhia ngā tāpiritanga me ngā tangohanga katoa e noho whanaunga mai ana.
    h) Whakamahia tētahi o ngā whārite hei whiriwhiri i te *x*.

6) a) Tuhia tāu ake tangohanga e whai wāhi mai ana te *x*.
    e) Tuhia ngā tāpiritanga me ngā tangohanga katoa e noho whanaunga mai ana.
    h) Whakamahia tētahi o ngā whārite hei whiriwhiri i te *x*.

7) Whakaaturia tō tāpiritanga me tō tangohanga ki t/ētahi hoa, ki tō kaiako rānei, ka whakamārama ai. He aha te rautaki i whāia e koe hei whiriwhiri i te *x*?

    Tuhia tētahi rapanga pakitau hei whakaatu i tō tāpiritanga.

Hei Mahi 2

Ngā tohutohu:
1. Hurihia te whārite kia tino āwhina i a koe ki te whiriwhiri i te *x*.
2. Whakaotia te whārite, arā, ka whiriwhiri i te *x*.
3. Whakamāramahia te rautaki i whakamahia e koe.

Hei tauira:
Te whārite: $47 = x + 19$
Te huringa o te whārite: $x = 47 - 19$
Te rautaki: $47 - 20 = 27, 27 + 1 = 28$
Te otinga: $x = 28$

1) $45 + x = 76$ (2) $x + 7 = 103$ (3) $89 = x + 21$

4) $52 - x = 25$ (5) $63 = 76 - x$ (6) $x - 29 = 51$

7) $73 = 14 + x$ (8) $x - 16 = 82$ (9) $72 - x = 51$

10) $95 = 37 + x$ (11) $58 = 71 - x$ (12) $96 = x - 47$

13) $147 + x = 155$ (14) $x - 110 = 270$ (15) $360 - x = 295$

16) $19000 + x = 20105$ (17) $x - 123456789 = 987654321$ (18) $44440 - x = 33330$

19) $8181 + x = 9191$ (20) $x - 1000001 = 4999999$ (21) $98765 - x = 22222$

22) $147147 + x = 151151$ (23) $x - 3750 = 2150$ (24) $10000000 - x = 999995$

Hei Mahi 3

Hei tauira:
19 ngā kāri ka riro i a Perarika, ā, kua eke ki te 47 ināianei te katoa o ana kāri. E hia ngā kāri i a Perarika i te tīmatanga?

a) Ka hurihia tēnei pakitau hei whārite: $x + 19 = 47$
e) Ko te x hei tohu i te maha o ngā kāri i a Perarika i te tuatahi.
h) Ka hurihia te whārite kia māmā ai te whakaoti: $x = 47 - 19$
i) Ka whakaotia te whārite: $x = 47 - 19 = 47 - 20 + 1 = 28$
k) Ka tuhia te otinga o te pakitau: E 28 ngā kāri a Perarika i te tīmatanga.

Ngā tohutohu:
Whāia te tauira i runga ake nei, ka whakaoti ai i ngā rapanga pakitau nei:

1. $1,000,000 te pūtea a Hera. Ka pau i a ia tētahi wāhanga o tana pūtea ki te hoko motukā. $967,000 o tana pūtea e toe mai ana. E hia te utu o te motukā?

2. E 41 ngā kāri a Himiona, 15 ka hoatu ki tana hoa. E hia ngā kāri a Himiona ināianei?

3. Ko te 17 o Here-turi-kōkā te rā. E hia rangi atu anō ki te mutunga o te marama?

4. E 387 ngā māpere a Ruia, ā, e whai ana kia 500. E hia atu anō ngā māpere hei kohi māna?

5. Hui katoa ngā pūtea a Haki rāua ko Hēni, ka $397. Mēnā $198 te pūtea a Haki, pēhea nei te rahi o te pūtea a Hēni?

6. Ia wiki, e 5,000 mita te kauhoe a Hiria hei whakapakari i tana tīnana. E hia atu anō ngā mita hei kauhoe māna kia eke ki te 16,000 mita te tawhiti o ana kauhoe.

7. Ka hokona e Wirihana tētahi tīhate, e$26 te utu. E $73 e toe ana ki a ia. E hia te rahi o tana pūtea i te tīmatanga?

8. 104kg te taumaha o Tīpene, engari e hiahia ana ia kia heke ki te 85kg. E hia manokaramu hei whakaheke māna?

9. E 27,632 ngā waehiko i pau i te kāinga o Māia i te tau 2006. E whai ana rātou kia kaua e nui ake i te 25,000 i te tau 2007. Kia hia te itinga iho o te waehiko hei whakapau mā rātou?

10. $1200 te whakapaunga utu a tētahi toa ki te hoko mai i tētahi pouaka whakaata. Ka hokona atu mō te $1699. E hia tāra te whakapikinga utu?

11. Kōwhiria kia 3 ngā whārite mai i Hei Mahi 2, ka tuhi ai i tētahi rapanga pakitau e hāngai ana. Me āta whakamārama te tikanga o te *x,* i runga i te horopaki o te rapanga.

TE WHAKAMAHI RAUTAKI TAU 1
NGĀ OTINGA

Hei Mahi 1

1	$58 + 39 = 97$	$39 + 58 = 97$	$97 = 58 + 39$	$97 = 58 + 39$
	$97 - 58 = 39$	$97 - 39 = 58$	$39 = 97 - 58$	$58 = 97 - 39$

2 (a) $\quad 23 + x = 78 \qquad\qquad x + 23 = 78 \qquad\qquad 78 = 23 + x \qquad\qquad 78 = x + 23$

$\qquad\quad 78 - 23 = x \qquad\qquad 78 - x = 23 \qquad\qquad x = 78 - 23 \qquad\qquad 23 = 78 - x$

(e) $\quad x = 78 - 23 \;\; (\,78 - 23 = x \text{ rānei})$

(h) $\quad x = 55$

3 $\qquad 87 - 29 = 58 \qquad\qquad 87 - 58 = 29 \qquad\qquad 58 = 87 - 29 \qquad\qquad 29 = 87 - 58$

$\qquad\quad 87 = 58 + 29 \qquad\qquad 87 = 29 + 58 \qquad\qquad 29 + 58 = 87 \qquad\qquad 58 + 29 = 87$

4 (a) $\quad 99 - x = 22 \qquad\qquad 99 - 22 = x \qquad\qquad x = 99 - 22 \qquad\qquad 22 = 99 - x$

$\qquad\quad x + 22 = 99 \qquad\qquad 22 + x = 99 \qquad\qquad 99 = 22 + x \qquad\qquad 99 = x + 22$

(e) $\quad x = 99 - 22 \;\; (99 - 22 = x \text{ rānei})$

(h) $\quad x = 77$

Hei Mahi 2

1)	$x = 76 - 45$ $x = 31$	(2)	$x = 103 - 7$ $x = 96$	(3)	$x = 89 - 21$ $x = 68$
4)	$x = 52 - 25$ $x = 27$	(5)	$x = 76 - 63$ $x = 13$	(6)	$x = 51 + 29$ $x = 80$
7)	$x = 73 - 14$ $x = 59$	(8)	$x = 82 + 16$ $x = 98$	(9)	$x = 72 - 51$ $x = 21$
10)	$x = 95 - 37$ $x = 58$	(11)	$x = 71 - 58$ $x = 13$	(12)	$x = 96 + 47$ $x = 143$
13)	$x = 155 - 147$ $x = 8$	(14)	$x = 270 + 110$ $x = 380$	(15)	$x = 360 - 295$ $x = 65$
16)	$x = 20105 - 19000$ $x = 1105$	(17)	$x = 987654321 + 123456789$ $x = 1111111110$	(18)	$x = 44440 - 33330$ $x = 11110$
19)	$x = 9191 - 8181$ $x = 1010$	(20)	$x = 4999999 + 1000001$ $x = 6000000$	(21)	$x = 98765 - 22222$ $x = 76543$

22) $x = 151151 - 147147$
$x = 4004$

(23) $x = 2150 + 3750$
$x = 5900$

(24) $x = 10000000 - 999995$
$x = 9000005$

Hei Mahi 3

1) x = te utu o te motukā

$1000000 - x = 967000$
$x = 1000000 - 967000$
$x = 33000$

2) x = ngā kāri ka hoatu e Himiona ki tana hoa

$41 - x = 15$
$x = 41 - 15$
$x = 26$

3) x = ngā rangi o Here-turi-kōkā e toe mai ana

$17 + x = 31$
$x = 31 - 17$
$x = 14$

4) x = te maha o ngā māpere hei kohi mā Ruia

$387 + x = 500$
$x = 500 - 387$
$x = 113$

5) x = te pūtea a Hēni

$397 = 198 + x$
$x = 397 - 198$
$x = 199$

6) x = te tawhiti ake hei kauhoe mā Hiria

$5000 + x = 16000$
$x = 16000 - 5000$
$x = 11000$

7) x = te rahi o tana pūtea i te tīmatanga

$73 = x - 26$
$x = 73 + 26$
$x = 99$

8) x = te taumaha hei whakaheke māna (kg)

$104 - x = 85$
$x = 104 - 85$
$x = 19$

9) x = te itinga iho o te waehiko

$27632 - x = 25000$
$x = 27632 - 25000$
$x = 2632$

10) x = te whakapikinga utu

$$1200 + x = 1699$$
$$x = 1699 - 1200$$
$$x = 499$$