

MATHEMATICAL INQUIRY BOOKLETS

Tau me te Taurangi

Tūārere 1 (Tau 3)

Pukapuka Kaiako

Level 2 – Year 3 teacher booklet: Tau me te Taurangi

<p>Rapanga 1</p>	<p>Whakaotia ngā whārite. He aha tāu e kite ai?</p> <p>30 + 10 = 26 + 20 = 54 + 30 = 39 – 10 = 99 – 10 =</p> <p>Whakaaturia ō whakaaro mā te whakamahi i tētahi raina tau wātea.</p>
<p>Whakaaro matua o te Ao Pangarau</p>	<p>E hāngai ana ta mātau pūnaha tau i runga anō i nga whakarōpū o te tekau, te take rānei tekau. Ko nga whakarōpūtanga o ngā mea, tekau, rau, me ngā mano e āhei ana ki te wehe i nga huarahi rerekē. Ka taea te whakapūkete i ngā mahi tau me ngā rautaki hei whakaoti i ngā mahi tau mā te whakamahi i ngā kupu, tau, hoahoa, me ngā tohu.</p>
<p>Nga tin mata o te marautanga</p>	<p>Te Whakarōpū, Te Wāwahi Tau me te Uara Tū Tau 2/3</p> <ul style="list-style-type: none"> • whakamahi tauhono o te 20 • tikanga o ngā tau ngahuru, ki te 100: h.t., e 6 ngā tekau kei roto i te 60 • tūhura i ngā momo whakaritenga o te wāwāhi me te whakarōpū tau anō • wāwāhi me te whakarōpū i ngā tau, ki te 100 • whakawhiti i ngā whānau 10 ki ngā whānau 100: h.t., 240 ngā tekau = e 2 ngā rau, e 4 ngā tekau • tautohu i te uara tū, te uara mati, me te uara katoa o tētahi tau, ki te 100: h.t., 46 = 40 + 6. • whakamahi tauhono o te 100: h.t., 40 + 60 = 100 • kōrero i te maha o ngā 10 kei roto i tētahi tau mati-3 •
<p>Whainganga AkoKa ako nga mokopuna ki te:</p>	<p>Tāpiri me te tango ā-roto o te tekau. Whakaatu whārite ki tētahi raina tau wātea. Whakamahia te uara wāhi hei whakatika i ngā rapanga tāpiri/tango.</p>
<p>Nga Tini mata o te reo Pangarau</p>	<p>Tekau, ngā mea, rau, uara wāhi, uara kanohi, uara tāpeke, pūtake tekau.</p>
<p>Wa toha me te hononga</p>	<p>Tīpakohia ngā rautaki rongoā ākongā e arotahi ana ki te uara wāhi me ngā mea e pā ana ki te tekau me ngā mea. Whakamahia tētahi raina tau wātea hei whakapūkete i te tāpiri ki ngā tau kotahi tekau, nui ake rānei.</p>

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	<p>Whakahautia te reo me ngā ariā o te uara wāhi kōhanga (hei tauira, e ono tekau mā ono tekau, e rua tekau mā rua, e rua tekau mā rua, e 2 tekau me te 6 tekau me te 2 tekau mā waru tekau mā waru).</p> <p><u>Hono:</u></p> <p>Tonoa ngā ākongā kia whakaoti i te reo uara wāhi e whai ake nei hei whakaahua i ā rātou rongoā:</p> <p>300 + 100 =</p> <p>360 + 100 =</p> <p>360 + 20 =</p> <p>360 + 300 =</p> <p>360 + 320 =</p>
<p>Hei awahina i te kaiako</p>	<ol style="list-style-type: none"> 1. I mua i tō whakarewatanga i te tūmahi, tuhia te 147 ki runga i te papa. Pātai atu ki ngā ākongā kia mōhio ki te tau me te whakaahua i ngā huarahi maha e taea ana e rātou. Miramiratia te uara wāhi, te uara kanohi me te uara tapeke i te tau. Whakaotia tēnei ngohe hei mahana puta noa i te wae mahi me te whakamahi i te whakanui ake i ngā tau tae atu ki te 10 000. 2. Kia wātea ngā rauemi raima mēnā e hiahiatia ana e ngā ākongā hei tīpako (hei tauira, kāri pere, moni i roto i ngā tuhipoka me ngā mea e \$10, me ngā papa 100). 3. Pēhi tika mō te uara wāhi me te kanohi me te uara tapeke. 4. E tūmanako ana ngā tamariki kia tohu i a rātau whakaaro i runga i tētahi raina tau wātea me te aroturuki i ngā pekenga i roto i ngā tau 10, nui ake rānei. Ki te kore ngā ākongā e whakamahi i ēnei whakauru hei whakaaturanga. <ul style="list-style-type: none"> • Ka taea te mōhio ki ngā huinga tekau (me te tekau tekau) hei mea kotahi e.g. 30 ko te 3 tekau tekau; Ina tāpiri mātou i te 40 e tāpiri ana mātou i te 4 tekau mā rua; E 5 rau te 500. Mahia kia mārama te 30 + 10 ko te 3 tekau me te 1 tekau. E whakamiramira ana tēnei i te āhua kōhanga o te uara wāhi. Ko te uara wāhi. ko te ariā kei roto ngā wae uara wāhi ki ētahi atu wae uara wāhi, hei tauira, kotahi tekau kei roto i ngā rau, ā, he rau kei roto i ngā mano.
<p>Rapanga Motuhake</p>	<p>Whakaotia ngā rapanga e whai ake nei:</p> <p>40 + 20 =</p> <p>36 + 20 =</p> <p>55 + 40 =</p> <p>78 + 10 =</p>

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	$89 - 20 =$ He aha ngā taurira ka kitea e koe?
Ma te kaiako	

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<p>Rapanga 2</p>	<p>He aha tāu i kite ai?</p> <p>$54 + 35 =$</p> <p>$126 + 42 =$</p> <p>$39 - 15 =$</p> <p>$265 - 33 =$</p> <p>Whakaaturia ō whakaaro mā te whakamahi i ngā whārite me tētahi raina tau wātea.</p>
<p>Whakaaro matua o te Ao Pangarau</p>	<p>E hāngai ana ta mātau pūnaha tau i runga anō i nga whakarōpū o te tekau, te take rānei tekau. Ko nga whakarōpūtanga o ngā mea, tekau, rau, me ngā mano e āhei ana ki te wehe i nga huarahi rerekē. Ka taea te whakapūkete i ngā mahi tau me ngā rautaki hei whakaoti i ngā mahi tau mā te whakamahi i ngā kupu, tau, hoahoa, me ngā tohu.</p>
<p>Nga tin mata o te marautanga</p>	<p>Te Whakarōpū, Te Wāwahi Tau me te Uara Tū Tau 3</p> <ul style="list-style-type: none"> • wāwāhi me te whakarōpū i ngā tau, ki te 100 • whakawhiti i ngā whānau 10 ki ngā whānau 100: h.t., 240 ngā tekau = e 2 ngā rau, e 4 ngā tekau • tautohu i te uara tū, te uara mati, me te uara katoa o tētahi tau, ki te 100: h.t., $46 = 40 + 6$. • whakamahi tauhono o te 100: h.t., $40 + 60 = 100$ • kōrero i te maha o ngā 10 kei roto i tētahi tau mati-3 <p>Nga Pāheko Tau 2/3</p> <ul style="list-style-type: none"> • tāpiri me te tango huinga ki te 100: h.t., $53 + 21$, $55 - 32$. • tāpiri me te tango tauoti mati- 2, mati-3 ki te 1,000: h.t., $400 + 600$ me te $200 + 700$.
<p>Whaingā AkoKa ako nga mokopuna ki te:</p>	<p>Tāpiri me te tango ngā tekau, me ngā rau. Whakaingoatia te wāhi, te kanohi, me te uara tapeke o ngā tau. Whakaatu whakaaro mā te whakamahi i tētahi raina tau me te tuhipoka.</p>
<p>Nga Tini mata o te reo Pangarau</p>	<p>Tens, ones, hundreds, place value, face value, total value.</p>
<p>Wa toha me te hononga</p>	<p>Miramiratia ngā rautaki rongoā ākongā i whakamahia ai te uara wāhi. Tauira me pēhea tēnei e hono ai ki tētahi whare uara wāhi.</p>

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	<p>Hono: Pātai atu ki ngā ākonga hei whakamārama me pēhea te whakamahi i te uara wāhi hei whakatika i ēnei whārite:</p> <p>$115 + 62 =$ $254 + 34 =$</p>
<p>Hei awhina i te kaiako</p>	<ol style="list-style-type: none"> 1. I mua i tō whakarewatanga i te tūmahi, tuhi 654 ki runga i te papa. Pātai atu ki ngā ākonga kia mōhio ki te tau me te whakaahua i ngā huarahi maha e taea ana e rātou. Miramiratia te uara wāhi, te uara kanohi me te uara tapeke i te tau. Whakaotia tēnei ngohe hei mahana puta noa i te wae mahi me te whakamahi i te whakanui ake i ngā tau tae atu ki te 10 000. 2. Kia wātea ngā rauemi raima mēnā e hiahiatia ana e ngā ākonga hei tīpako (hei tauira, kāri pere, ngā tāpare tekau kua tā kētia, he moni i roto i ngā tuhipoka me ngā mea e \$10, me ngā papa 100). 3. Pēhi tika mō te uara wāhi me te kanohi me te uara tapeke, pēhia hoki ngā mea ka tūpono ki ngā mea ina tāpiri koe i te tekau ki te tau. 4. E tūmanako ana ngā tamariki kia tohu i a rātau whakaaro i runga i tētahi raina tau wātea me te whakamahi whārite. <ul style="list-style-type: none"> • Ka taea te mōhio ki ngā huinga tekau (me te tekau tekau) hei mea kotahi e.g. 30 ko te 3 tekau tekau; Ina tāpiri mātou i te 40 e tāpiri ana mātou i te 4 tekau mā rua; E 5 rau te 500. Mahia kia mārama te $30 + 10$ ko te 3 tekau me te 1 tekau. Miramiratia te āhua kōhanga o te uara wāhi. Ko te uara wāhi Nested ko te ariā kei roto ngā wae uara wāhi ki ētahi atu wae uara wāhi, hei tauira, kotahi tekau kei roto i ngā rau, ā, he rau kei roto i ngā mano.
<p>Rapanga Motuhake</p>	<p>Whakaoti ēnei whārite:</p> <p>$33 + 11 =$ $23 + 25 =$ $442 + 35 =$ $48 - 16 =$ $56 - 12 =$ $168 - 25 =$</p>
<p>Ma te kaiako</p>	

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<p>Rapanga 3</p>	<p>I kohia e Rena e 56 nga whakapiripiri. E 24 nga whakapiri i hoatu e ia ki tōna hoa. E hia nga whakapiripiri kua mahue i a Rena?</p> <p>I kohia e Aha e 168 nga whakapiripiri. E 31 nga whakapiripiri i hoatu e ia ki tōna hoa. E hia nga whakapiripiri kua mahue i a Aha?</p> <p>I kohia e Kelly e 399 nga whakapiripiri. E 73 nga whakapiripiri i hoatu e ia ki tōna hoa. E hia nga whakapiripiri kua mahue i a Kelly?</p>
<p>Whakaaro matua o te Ao Pangarau</p>	<p>E hāngai ana ta mātau pūnaha tau i runga anō i nga whakarōpū o te tekau, te take rānei tekau. Ko nga whakarōpūtanga o ngā mea, tekau, rau, me ngā mano e āhei ana ki te wehe i nga huarahi rerekē.</p> <p>Ka whakamahia ngā tau hei whakaingoa i ngā rahinga tauwhāiti. Ka taea te whakawātea i ngā tau ki ngā wāhanga i roto i ngā huarahi kāore e taea te huri i te nuinga.</p> <p>Ka taea te whakapūkete i ngā mahi tau me ngā rautaki hei whakaoti i ngā mahi tau mā te kupu, tau, hoahoa, me ngā tohu.</p>
<p>Nga tin mata o te marautanga</p>	<p>Te Whakarōpū, Te Wāwahi Tau me te Uara Tū Tau 3</p> <ul style="list-style-type: none"> • wāwāhi me te whakarōpū i ngā tau, ki te 100 • whakawhiti i ngā whānau 10 ki ngā whānau 100: h.t., 240 ngā tekau = e 2 ngā rau, e 4 ngā tekau • tautohu i te uara tū, te uara mati, me te uara katoa o tētahi tau, ki te 100: h.t., $46 = 40 + 6$. • whakamahi tauhono o te 100: h.t., $40 + 60 = 100$ • kōrero i te maha o ngā 10 kei roto i tētahi tau mati-3 <p>Nga Pāheko Tau 2/3</p> <ul style="list-style-type: none"> • tāpiri me te tango huinga ki te 100: h.t., $53 + 21, 55 - 32$. • tāpiri me te tango tauoti- 2, mati-3 ki te 1,000: h.t., $400 + 600$ me te $200 + 700$.
<p>Whaingā AkoKa ako nga mokopuna ki te:</p>	<p>Whakamahia te uara wāhi hei whakatika i ngā raruraru mahiroto. E whakaatu ana i te whakaaro mā te whakamahi i tētahi raina tau me te tuhipoka.</p>
<p>Nga Tini mata o te reo Pangarau</p>	<p>Ngā tekau, ngā kōtahi, tāpiri me te tango</p>
<p>Wa toha me te hononga</p>	<p>Tīpakohia ngā rautaki rongoā ākongā kua whakamahi uara wāhi:</p> <p><i>168 = 100 + 60 + 8 so to take away 31 ...</i></p> <p><i>100 - 0 = 100</i></p> <p><i>60 - 30 = 30</i></p>

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	<p>$8 - 1 = 7$</p> <p>$168 - 31 = 137$</p> <p>or</p> <p>$168 - 30 = 138$</p> <p>$138 - 1 = 137$</p> <p>Pātai atu ki ngā ākonga kia tohu, kia tauira rānei me pēhea te tohu mā te whakamahi i ngā whārite me tētahi raina tau wātea</p> <p>Hono:</p> <p>Pātai atu ki ngā ākonga kia whakamārama me pēhea tō whakaoti i ngā whārite e whai ake nei mā te uara wāhi:</p> <p>$78 - 34 =$</p> <p>$165 - 42 =$</p>
<p>Hei awhina i te kaiako</p>	<ol style="list-style-type: none"> 1. Kia wātea ngā rauemi raima mēnā e hiahiatia ana e ngā ākonga hei tīpako (hei tauira, kāri pere, ngā tāpare tekau kua tā kētia, he moni i roto i ngā tuhipoka me ngā mea e \$10, me ngā papa 100). 2. E tūmanako ana ngā ākonga kia tohu i ā rātou whakaaro i runga i tētahi raina tau wātea me te aroturuki i ngā pekenga i roto i ngā tau 10, nui ake rānei. Ki te kore ngā ākonga e whakamahi i ēnei whakamahinga hei whakaaturanga. 3. E tūmanako ana hoki ngā ākonga ki te whakamahi i ngā whārite hei tohu i a rātau whakaaro. Tauira i tēnei ki te kore ngā ākonga e whakamahi whārite. <ul style="list-style-type: none"> • E mōhio ana ki ngā ākonga e whakaiti ana mā te whakamahi i te tekau me ngā mea.
<p>Rapanga Motuhake</p>	<p>E 88 nga pere o Me-Lee. I mahia e ia he kaki mo tōna tuahine, a, e 56 nga pere i whakamahia e ia. E hia ngā pere kua mahue i a Me-Lee?</p> <p>E 237 nga pere o Pete. I mahia e ia he kaki mo tōna tuahine, a, e 21 nga pere i whakamahia. E hia nga pere kua mahue i a Pete?</p> <p>E 456 nga pere o Dakota. I mahia e ia he kaki mo tōna tuahine, a, e 32 nga pere i whakamahia e ia. E hia nga pere kua mahue i a Dakota?</p>
<p>Ma te kaiako</p>	

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<p>Rapanga 4</p>	<p>Kai te kōmaka a Monty i ana māpere hai kara. E 56 nga māpere kikorangi, e 29 nga māpere whero. E hia nga māpere kai a Monty katoa?</p> <p>Kai te kōmaka a Paora i ana māpere hai kara. E 227 nga māpere pango, e 25 nga māpere ārani. E hia nga māpere kai a Paorai?</p> <p>Kai te kōmaka a Jade i ana māpere hai kara. E 39 nga māpere kōwhai me nga paraka kākārīki e 138. E hia ngā māpere kai te katoa a Jade?</p>
<p>Whakaaro matua o te Ao Pangarau</p>	<p>Ka whakamahia ngā tau hei whakaingoa i ngā rahinga tauwhāiti. Ka taea te whakawātea i ngā tau ki ngā wāhanga i roto i ngā huarahi kāore e taea te huri i te nuinga.</p> <p>Tērā ētahi āhuatanga tauhanga e whakaahua ana i te tāpiritanga me te whakarea hei mahi. Ko ēnei te āhuatanga kōaro, ā-waha, ā-waha, me ngā āhuatanga tuakiri. He pātahitanga kōaro tō te tāpiritanga me te whakarea me te whakareatanga me te wehenga.</p> <p>E whakaatu ana ngā whārite i ngā pātahitanga o te ōritetanga i waenganui i ngā wāhanga i ia taha o te tohu ōrite. Ko ngā āhuatanga o te ōritetanga ko: Mēnā ka tāpirihia, ka whakaritea rānei te tau tūturu ōrite ki ngā taha e rua o tētahi whārite, ka pupuritia te ōritetanga; Mēnā ka whakanuia, ka wehea rānei ngā taha e rua o tētahi whārite e te tau tūturu ōrite (kāore e whakawehea e te 0), ka pupuritia te ōritetanga; E rua ngā rahinga e ōrite ana ki te rahinga tuatoru ōrite e ōrite ana ki a rāua anō.</p>
<p>Nga tin mata o te marautanga</p>	<p>Te Whakarōpū, Te Wāwahi Tau me te Uara Tū Tau 3</p> <ul style="list-style-type: none"> • wāwāhi me te whakarōpū i ngā tau, ki te 100 • whakawhiti i ngā whānau 10 ki ngā whānau 100: h.t., 240 ngā tekau = e 2 ngā rau, e 4 ngā tekau • tautohu i te uara tū, te uara mati, me te uara katoa o tētahi tau, ki te 100: h.t., $46 = 40 + 6$. • whakamahi tauhono o te 100: h.t., $40 + 60 = 100$ • kōrero i te maha o ngā 10 kei roto i tētahi tau mati-3 <p>Nga Pāheko Tau 2/3</p> <ul style="list-style-type: none"> • tāpiri me te tango huinga ki te 100: h.t., $53 + 21$, $55 - 32$. • tāpiri me te tango tauoti mati- 2, mati-3 ki te 1,000: h.t., $400 + 600$ me te $200 + 700$.
<p>Whaingā AkoKa ako nga mokopuna ki te:</p>	<p>Ngā tau e hiahiatia ana, e whakahoki anō ana tae atu ki te 500.</p> <p>Whakamahia te uara wāhi hei whakatika i ngā rapanga tāpiri.</p> <p>Whakamahia te hononga tekau mā te nuinga o ngā tau hei whakatika i ngā rapanga tāpiri.</p> <p>Whakamahia te ōritetanga me te utu hei whakatika i ngā rapanga tāpiri.</p>

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	E whakaatu ana i te whakaaro mā te whakamahi i tētahi raina tau me te tuhipoka.
Nga Tini mata o te reo Pangarau	Ngā tekau, ngā kōtahi, tāpiri, tango
Wa toha me te hononga	<p>Tīpakohia ngā rautaki rongoā ākongā kua arawhiti puta noa i te tekau tau, i whakamahia rānei te ōritetanga me te utu. Ki te kore tētahi ākongā e whakatika i te tūmahi pēnei, kātahi ka whakauru atu i te rautaki rongoā hei tauira whirinoa e whakamahia ana e ētahi atu ākongā.</p> <p>Whakamahia ngā whakaaturanga maha hei tohu i ngā rautaki rongoā ākongā tae atu ki tētahi raina tau wātea, whārite, me ngā tāpare tekau.</p> <p><i>Bridging across tens</i></p> $39 + 138 =$ $138 - 100 = 38$ $39 + 1 = 40$ $40 + 30 = 70$ $70 + 7 = 77$ $100 + 77 = 177$ <p><i>Equivalence and compensation</i></p> $39 + 138 =$ $39 + 140 = 179$ $79 - 2 = 177$ <p>Hono:</p> <p>Pātai atu ki ngā ākongā kia whakaahua me pēhea tō whakatika i ngā whārite e whai ake nei mā te whakamahi i te bridging puta noa i te tekau tau, i te ōritetanga rānei me te utu:</p> $58 + 119 =$ $455 + 27 =$
Hei awhina i te kaiako	<ol style="list-style-type: none"> 1. Kia wātea ngā rauemi raima mēnā e hiahiaitia ana e ngā ākongā hei tīpako (hei tauira, kāri pere, ngā tāpare tekau kua tā kētia, he moni i roto i ngā tuhipoka me ngā mea e \$10, me ngā papa 100). 2. Me mōhio ki ngā ākongā e tāpiri ana i ngā tau mā te whakawhāiti ki te tekau tau tata rawa. 3. E mōhio ana ki ngā ākongā e whakamahi ana i te ōritetanga me te utu. <ul style="list-style-type: none"> • Tatari kia tohu ngā ākongā mā te whakamahi i tētahi raina tau

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	wātea me ngā whārite.
Rapanga Motuhake	<p>I kohia e Haki rāua ko Jill he rau ki te papa tākaro. E 65 nga rau o Haki, a, e 27 nga rau o Jill. E hia nga rau kai a rātau katoa?</p> <p>I kohia e Dallas rāua ko Vegas he rau i te papa tākaro. E 118 nga rau o Dallas, a, e 46 nga rau o Vegas. E hia nga rau kai a rātau katoa?</p> <p>I kohia e Rōmana rāua ko Iraia he rau ki te papa tākaro. E 59 nga acorns o Rōmana, a, e 238 nga wā o Iraia. E hia nga rau kai a rātau katoa?</p>
Ma te kaiako	

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<p>Rapanga 5</p>	<p>I te āwhina a Manu i te hoko tōtiti. I tunua e rātau e 56 nga tōtiti, a, e 28 nga kākano i hokona e rātau. E hia nga tōtiti kua mahue i a rātau?</p> <p>I te āwhina a Sepi i te hoko tōtiti. I tunua e rātau e 182 nga tōtiti, a, e 69 nga kākano i hokona e rātau. E hia nga tōtiti kua mahue i a rātau?</p> <p>I te āwhina a Don i te hoko tōtiti. I tunua e rātau e 174 nga kākano, a, e 137 nga kākano i hokona e rātau. E hia nga tōtiti kua mahue i a rātau?</p>
<p>Whakaaro matua o te Ao Pangarau</p>	<p>Ka whakamahia ngā tau hei whakaingoa i ngā rahinga tauwhāiti. Ka taea te whakawātea i ngā tau ki ngā wāhanga i roto i ngā huarahi kāore e taea te huri i te nuinga.</p> <p>Tērā ētahi āhuatanga tauhanga e whakaahua ana i te tāpiritanga me te whakarea hei mahi. Ko ēnei te āhuatanga kōaro, ā-waha, ā-waha, me ngā āhuatanga tuakiri. He pātahitanga kōaro tō te tāpiritanga me te whakarea me te whakareatanga me te wehenga.</p> <p>E whakaatu ana ngā whārite i ngā pātahitanga o te ōritetanga i waenganui i ngā wāhanga i ia taha o te tohu ōrite. Ko ngā āhuatanga o te ōritetanga ko: Mēnā ka tāpirihia, ka whakaritea rānei te tau tūturu ōrite ki ngā taha e rua o tētahi whārite, ka pupuritia te ōritetanga; Mēnā ka whakanuia, ka wehea rānei ngā taha e rua o tētahi whārite e te tau tūturu ōrite (kāore e whakawehea e te 0), ka pupuritia te ōritetanga; E rua nga rahinga e ōrite ana ki te nuinga tuatoru kotahi e ōrite ana ki a rāua anō.</p>
<p>Nga tini mata o te Marautanga</p>	<p>Te Whakarōpū, Te Wāwahi Tau me te Uara Tū Tau 3</p> <ul style="list-style-type: none"> • wāwāhi me te whakarōpū i ngā tau, ki te 100 • whakawhiti i ngā whānau 10 ki ngā whānau 100: h.t., 240 ngā tekau = e 2 ngā rau, e 4 ngā tekau • tautohu i te uara tū, te uara mati, me te uara katoa o tētahi tau, ki te 100: h.t., $46 = 40 + 6$. • whakamahi tauhono o te 100: h.t., $40 + 60 = 100$ • kōrero i te maha o ngā 10 kei roto i tētahi tau mati-3 <p>Nga Pāheko Tau 3</p> <ul style="list-style-type: none"> • tāpiri me te tango huinga ki te 100: h.t., $53 + 21$, $55 - 32$. • tāpiri me te tango tauoti mati- 2, mati-3 ki te 1,000: h.t., $400 + 600$ me te $200 + 700$.
<p>Whaingā AkoKa ako nga mokopuna ki te:</p>	<p>Ngā tau e hiahia ana, e whakahoki anō ana tae atu ki te 500. Whakamahia te tangohia i ētahi wāhanga hei whakatika i ngā rapanga tango.</p> <p>Whakamahia te ōritetanga me te utu hei whakatika i ngā rapanga tangohia.</p>

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	Whakaatu whakaaro mā te whakamahi i tētahi raina tau me te tuhipoka.
Nga Tini mata o te reo Pagarau	He rau, tekau, he kōtahi tāpiri, tango.
Wa toha me te hononga	<p>Tirohia me te tīpako i ngā rautaki rongoā ākonga i reira i whakaritea ai e rātou ki ngā wāhanga, ki te whakamahi rānei i te ōritetanga me te utu. Whakaaturia ēnei mā te whakamahi whārite me tētahi raina tau wātea.</p> <p><i>Tangohia i ngā wāhanga</i></p> $56 - 28 =$ $56 - 20 = 36$ $36 - 6 = 30$ $30 - 2 = 28$ <p><i>Ōritetanga me te utu (Equivalence and Compensation)</i></p> $56 - 28 =$ $56 - 30 = 26$ $26 + 2 = 28$ <p>Hono:</p> <p>Pātai atu ki ngā ākonga kia whakaahua me pēhea tō whakatika i ngā whārite e whai ake nei mā te whakamahi i te whakawhāititanga i ngā wāhanga, i te ōritetanga rānei me te utu:</p> $92 - 38 =$ $186 - 129 =$ <p>Whakamahia tētahi raina wātea me ngā whārite hei tohu i ō rātou whakaaro.</p>
Hei awahina i te kaiako	<ol style="list-style-type: none"> 1. Kia wātea ngā rauemi raima mēnā e hiahiatia ana e ngā ākonga hei tīpako (hei tauira, kāri pere, ngā tāpare tekau kua tā kētia, he moni i roto i ngā tuhipoka me ngā mea e \$10, me ngā papa 100). 2. Ka taea e ngā ākonga te whakaiti i ngā wāhanga, te whakamahi rānei i te ōritetanga me te utu (kia nui ake, kātahi ka whakarite ōrite). 3. Ka taea e ngā ākonga te whakatika mā te whakamahi i ngā pātahitanga kōaro. Whakamahia tēnei hei miramira i te pātahitanga i waenga i te tāpiritanga me te mahiroto. <ul style="list-style-type: none"> • Tatari kia tohu ngā ākonga mā te whakamahi whārite me ngā raina tau wātea.
Rapanga Motuhake	E 51 nga here o Ana. I whakamahia e ia te 27 hai poroporo mo tōna hoa. E hia nga here kua mahue i a ia?

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	<p>E 148 nga here o Tina. I whakamahia e ia te 39 hai poroporo mo tōna hoa. E hia nga here kua mahue i a ia?</p> <p>E 152 nga here o Sam. I whakamahia e ia te 126 hai poroporo mo tōna hoa. E hia nga here kua mahue i a ia?</p>
Ma te kaiako	

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<p>Rapanga 6</p>	<p>E 24 nga feijoas o Aunty. Ka tono a ia ki a Tama kia kōwhiri anō. Ināianei e 51 nga feijoas o Aunty. E hia nga feijoas i kōwhiria e Tama?</p> <p>E 44 nga nēra o tētahi Pāpā i roto i tōna pouaka utauta. I kitea e ia ētahi atu mea i roto i te kākahu. Ināianei e 172 ōna nēra. E hia nga nēra i kitea e tōna Pāpā i roto i te kākahu?</p> <p>E 116 nga kāri Pokemon o Mei i roto i tana kohinga. I hoatu ki a ia he kāri mo tōna rā whānau. Ināianei e 145 ngā kāri Pokemon o Mei. E hia ngā kāri i hoatu ki a Mei?</p>
<p>Whakaaro matua o te Ao Pangarau</p>	<p>Ka whakamahia ngā tau hei whakaingoa i ngā rahinga tauwhāiti. Ka taea te whakawātea i ngā tau ki ngā wāhanga i roto i ngā huarahi kāore e taea te huri i te nuinga.</p> <p>Tērā ētahi āhuratanga tauhanga e whakaahua ana i te tāpiritanga me te whakarea hei mahi. Ko ēnei te āhuratanga kōaro, ā-waha, ā-waha, me ngā āhuratanga tuakiri. He pātahitanga kōaro tō te tāpiritanga me te whakarea me te whakareatanga me te wehenga.</p> <p>E whakaatu ana ngā whārite i ngā pātahitanga o te ōritetanga i waenganui i ngā wāhanga i ia taha o te tohu ōrite. Ko ngā āhuratanga o te ōritetanga ko: Mēnā ka tāpirihia, ka whakaritea rānei te tau tūturu ōrite ki ngā taha e rua o tētahi whārite, ka pupuritia te ōritetanga; Mēnā ka whakanuia, ka wehea rānei ngā taha e rua o tētahi whārite e te tau tūturu ōrite (kāore e whakawehea e te 0), ka pupuritia te ōritetanga; E rua nga rahinga e ōrite ana ki te nuinga tuatoru kotahi e ōrite ana ki a rāua anō.</p>
<p>Nga tin mata o te marautanga</p>	<p>Te Whakarōpū, Te Wāwahi Tau me te Uara Tū Tau 3</p> <ul style="list-style-type: none"> • wāwāhi me te whakarōpū i ngā tau, ki te 100 • whakawhiti i ngā whānau 10 ki ngā whānau 100: h.t., 240 ngā tekau = e 2 ngā rau, e 4 ngā tekau • tautohu i te uara tū, te uara mati, me te uara katoa o tētahi tau, ki te 100: h.t., $46 = 40 + 6$. • whakamahi tauhono o te 100: h.t., $40 + 60 = 100$ • kōrero i te maha o ngā 10 kei roto i tētahi tau mati-3 <p>Nga Pāheko Tau 2/3</p> <ul style="list-style-type: none"> • tāpiri me te tango huinga ki te 100: h.t., $53 + 21$, $55 - 32$. • tāpiri me te tango tauoti mati- 2, mati-3 ki te 1,000: h.t., $400 + 600$ me te $200 + 700$.

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Whaingā AkoKa ako nga mokopuna ki te:	<p>Ngā tau e hiahiatia ana, e whakahoki anō ana tae atu ki te 500.</p> <p>Whakamahia te tangi i ētahi wāhanga hei whakatika i ngā rapanga tango</p> <p>Whakamahia te ōritetanga me te utu hei whakatika i ngā rapanga tango</p> <p>Whakamahia te pātahitanga kōaro o te tāpiritanga me te tango hei whakatika i ngā rapanga.</p> <p>E whakaatu ana i te whakaaro mā te whakamahi i tētahi raina tau me te tuhipoka.</p>
Nga Tini mata o te reo Pangarau	<p>Hundred, tens, ones, add, subtract, inverse relationship.</p> <p>Rau, tekau, kōtahi, tāpiri, tango, pātahitanga kōaro</p>
Wa toha me te hononga	<p>Tīpakohia tētahi rautaki rongoā ākongā e whakamahi ana i te tāpiritanga me tētahi atu mea kua whakamahia te tango.</p> <p>Whakangāwaritia ngā ākongā hei whakataurite i ngā rautaki rongoā me te whakamahi i tēnei hei miramira i te pātahitanga kōaro i waenga i te tāpiritanga me te tango. Ki te kore tētahi ākongā e whakatika i te tūmahi pēnei, kātahi ka whakauru atu i te rautaki rongoā hei tauira whirinoa e whakamahia ana e ētahi atu ākongā.</p> <p>Hono:</p> <p>Tonoa ngā ākongā kia tohu i te āhuatanga e whai ake nei mā te whakamahi i ngā whārite me ngā mahi rerekē e rua neke atu rānei:</p> <p>E 61 nga ārani o Ana. Ka puritia e ia ētahi ārani, engari e 16 ki tōna hoa noho. E hia nga ārani i pupuri i a Ana?</p> <p>Tāhopu hei $61 - 16 =$ Or $16 + \underline{\quad} = 61$</p> <p>Kātahi ka whakamahi i te tohuāki "mēnā e mōhio ana koe ko te $61 - 16 = 45$, he aha ētahi atu rerenga tau ka taea e koe te tuhi?"</p> <p>Pātai atu ki ngā ākongā kia kōrerorero i nga mea e kitea ana e rātau, kia whakaputa hoki.</p>
Hei awhina i te kaiako	<ol style="list-style-type: none"> Whakarewahia ēnei tūmahi mā te tono i ngā ākongā kia mahi i te tauari kia āhei ai rātou ki te hanganga o ngā tūmahi. Kia wātea ngā rauemi raima mēnā e hiahiatia ana e ngā ākongā hei tīpako (hei tauira, ngā tāpare tekau kua tā kētia, he moni i roto i ngā tuhipoka me ngā mea e \$10, me ngā papa 100). Ka taea e ngā ākongā te tā ki runga i te kōaro me te whakaoti mā te tāpiritanga, te mahiroto rānei. <ul style="list-style-type: none"> Arotahi ki ngā ākongā tautoko hei tohu mā te whakamahi whārite me tētahi raina tau wātea hei whakatika i ngā tūmahi.
Rapanga Motuhake	<p>E 22 nga feijoas i roto i te pāhi kotahi me te 14 nga feijoas i roto i tētahi atu pāhi. E hia nga huruhuru kai te tino nui te matua kēkē?</p>

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	<p>E 54 nga rōpere i kōwhiria e Mona, a, ka kōwhiria e tōna tuahine ētahi atu mea. Ināianei e 92 nga rōpere kai a rātau. E hia nga tāngata i kōwhiri i te whanaunga?</p> <p>E 37 nga pere māwhero o Mere i roto i te pēke kotahi. He pere kōwhai anō tōna i roto i tētahi atu pāhi. Ko te katoa e 76 ana pere. E hia ngā pere kōwhai kai a ia?</p>
Ma te kaiako	

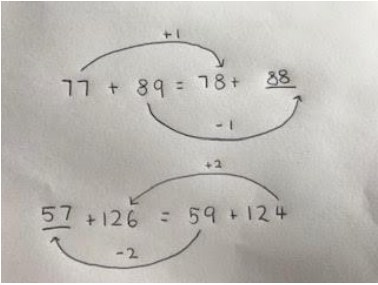
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<p>Rapanga 7</p>	<p>Ka taea e koe te kite i ngā tau ngaro?</p> <p>$18 + 6 = _ + 5$</p> <p>$35 + 19 = 36 + _$</p> <p>$19 + _ = 17 + 25$</p> <p>$_ + 86 = 19 + 85$</p>
<p>Whakaaro matua o te Ao Pangarau</p>	<p>E whakaatu ana ngā whārite i ngā pātahitanga o te ōritetanga i waenganui i ngā wāhanga i ia taha o te tohu ōrite. Ko ngā āhuatanga o te ōritetanga ko: Mēnā ka tāpirihia, ka whakaritea rānei te tau tūturu ōrite ki ngā taha e rua o tētahi whārite, ka pupuritia te ōritetanga; Mēnā ka whakanuia, ka wehea rānei ngā taha e rua o tētahi whārite e te tau tūturu ōrite (kāore e whakawehea e te 0), ka pupuritia te ōritetanga; E rua nga rahinga e ōrite ana ki te nuinga tuatoru kotahi e ōrite ana ki a rāua anō.</p>
<p>Nga tin mata o te marautanga</p>	<p>Te Whakaaro Taurangi Tau 3 whakamahi i te pāheko tapiripritanga: h.t., $4 + 0 = 4$ me te $5 - 0 = 5$ Te Whakarōpū, Te Wāwahi Tau me te Uara Tū Tau 3</p> <ul style="list-style-type: none"> • wāwāhi me te whakarōpū i ngā tau, ki te 100 • whakawhiti i ngā whānau 10 ki ngā whānau 100: h.t., 240 ngā tekau = e 2 ngā rau, e 4 ngā tekau • tautohu i te uara tū, te uara mati, me te uara katoa o tētahi tau, ki te 100: h.t., $46 = 40 + 6$. • whakamahi tauhono o te 100: h.t., $40 + 60 = 100$ • kōrero i te maha o ngā 10 kei roto i tētahi tau mati-3 <p>Nga Pāheko Tau 3</p> <ul style="list-style-type: none"> • tāpiri me te tango huinga ki te 100: h.t., $53 + 21$, $55 - 32$. • tāpiri me te tango tauoti mati- 2, mati-3 ki te 1,000: h.t., $400 + 600$ me te $200 + 700$. • Ngā wharite me ngā panga Tau 4 • tuhi me te whakaoti whārite pono, whārite parau rānei, whārite whānui hoki e whai wāhi mai ana te whakarea me te whakawehe, he whakamahi i tōna mōhiotanga ki te tohu ōrite: h.t., $5 \times _ = 20$, $_ \div 3 = 6$.
<p>Whaingā AkoKa ako nga mokopuna ki te:</p>	<p>Whakamārama me te whakatautika i ngā pātahitanga i waenga i ngā tau i roto i te whārite. Whakaoti i ngā raruraru ōrite me te whakamārama me te whakatautika i ngā rongoā.</p>
<p>Nga tini mata o te reo pangarau</p>	<p>Tohu ōrite, pātahitanga, rerekētanga, tāpiri, tango.</p>

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<p>Wa toha me te hononga</p>	<p>Whakaae i ngā ākongā kia tiritiri i ngā mōhiotanga e pā ana ki te tohu ōrite (hei taurira, $18 + 6 = 24 + 5$) ki te whakatū i a rātou kia uru ki te tohenga.</p> <p>Tīpakohia ngā ākongā hei tiritiri nāna i whakamahi i tētahi rautaki pānga hei kimi i te tau ngaro. Ki te kore ngā ākongā e whakamahi i tētahi rautaki pānga, whakamōhiotia tēnei ki a rātou mā te whakamahi i ngā pere me ngā whakamāramatanga.</p>  <p>Hono:</p> <p>Tono atu ki ngā ākongā kia kitea ngā tau ngaro mā te kimi i te pātahitanga puta noa i te tohu ōrite me te whakaatu i tēnei mā te whakamahi pere.</p> <p>$77 + 89 = 78 + \underline{\quad}$</p> <p>$\underline{\quad} + 126 = 59 + 124$</p>
<p>Hei awahina i te kaiako</p>	<p>1. I mua i tō whakarewa i te tūmahi, pātai atu ki ngā ākongā kia kōrerorero i ēnei rerenga tau pono, hē hoki, me te whakatautika i o rātau whakaaro:</p> <p>$188 = 188$ $99 + 255 = 256 + 99$ $78 = 88 - 10$ $29 + 30 = 59 + 8$ $28 + 26 = 29 + 25$ $250 = 261$</p> <p>Whakamahia ngā tūmahi rerenga tau pono, hē hoki, tuwhera hoki hei whakamahana puta noa i te tau.</p> <p>Ka tīmata pea ngā ākongā mā te whakaatu i ngā mōhiotanga. Ka taea tēnei te whakamahi hei whakatū i ngā ākongā hei whakaae/whakakore.</p> <p>Ka taea e ētahi ākongā te mahi i tētahi taha, ā, ko tētahi kia ōrite ki te tau kotahi. Heoi anō, ko te arotahi matua ko te whakatū i ngā ākongā hei whakamahi i ngā pātahitanga puta noa i te tohu ōrite.</p> <p>Ka aro atu ki ngā ākongā e whakamahi ana i ngā momo whakaaro pānga me te whakamōhio i ngā rerenga tau me ngā pere hei miramira i tēnei.</p>
<p>Rapanga</p>	<p>Whakaotihia ngā rapanga e whai ake nei:</p>

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Motuhake	$126 + 57 =$ $122 - 72 =$ $74 + 168 =$ $137 + 85 =$ $192 - 65 =$
Ma te kaiako	

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<p>Rapanga 8</p>	<p>Kimihia ngā tau ngaro:</p> $23 - 17 = _ - 15$ $46 - 28 = 45 - _$ $_ - 36 = 71 - 26$ $143 - _ = 43 - 29$
<p>Whakaaro matua o te Ao Pangarau</p>	<p>E whakaatu ana ngā whārite i ngā pātahitanga o te ōritetanga i waenganui i ngā wāhanga i ia taha o te tohu ōrite. Ko ngā āhuatanga o te ōritetanga ko: Mēnā ka tāpirihia, ka whakaritea rānei te tau tūturu ōrite ki ngā taha e rua o tētahi whārite, ka pupuritia te ōritetanga; Mēnā ka whakanuia, ka wehea rānei ngā taha e rua o tētahi whārite e te tau tūturu ōrite (kāore e whakawehea e te 0), ka pupuritia te ōritetanga; E rua nga rahinga e ōrite ana ki te nuinga tuatoru kotahi e ōrite ana ki a rāua anō.</p>
<p>Nga tin mata o te marautanga</p>	<p>Te Whakaaro Taurangi Tau 3 whakamahi i te pāheko tapiripritanga: h.t., $4 + 0 = 4$ me te $5 - 0 = 5$ Te Whakarōpū, Te Wāwahi Tau me te Uara Tū Tau 3</p> <ul style="list-style-type: none"> • wāwāhi me te whakarōpū i ngā tau, ki te 100 • whakawhiti i ngā whānau 10 ki ngā whānau 100: h.t., 240 ngā tekau = e 2 ngā rau, e 4 ngā tekau • tautohu i te uara tū, te uara mati, me te uara katoa o tētahi tau, ki te 100: h.t., $46 = 40 + 6$. • whakamahi tauhono o te 100: h.t., $40 + 60 = 100$ • kōrero i te maha o ngā 10 kei roto i tētahi tau mati-3 <p>Nga Pāheko Tau 3</p> <ul style="list-style-type: none"> • tāpiri me te tango huinga ki te 100: h.t., $53 + 21$, $55 - 32$. • tāpiri me te tango tauoti mati- 2, mati-3 ki te 1,000: h.t., $400 + 600$ me te $200 + 700$. • Ngā wharite me ngā panga Tau 4 • tuhi me te whakaoti whārite pono, whārite parau rānei, whārite whānui hoki e whai wāhi mai ana te whakarea me te whakawehe, he whakamahi i tōna mōhiotanga ki te tohu ōrite: h.t., $5 \times _ = 20$, $_ \div 3 = 6$.
<p>Whaingā Ako Ka ako nga mokopuna ki te:</p>	<p>Whakamārama me te whakatautika i ngā pātahitanga i waenga i ngā tau i roto i te whārite. Whakaoti i ngā raruraru ōrite me te whakamārama me te whakatautika i ngā rongoā.</p>
<p>Nga tini mata o te reo pangarau</p>	<p>Tohu ōrite, pātahitanga, rerekētanga, tāpiri, tango.</p>

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<p>Wa toha me te hononga</p>	<p>Tīpakohia ngā ākonga hei tiritiri nāna i whakamahi i tētahi rautaki pānga hei kimi i te tau ngaro. Whakamōhiohia ngā whārite mā ngā pere.</p> <p>Hono:</p> <p>Tono atu ki ngā ākonga kia kitea ngā tau ngaro mā te kimi i te pātahitanga puta noa i te tohu ōrite me te whakaatu i tēnei mā te whakamahi pere.</p> <p>$34 - 17 = 35 - \underline{\quad}$</p> <p>$\underline{\quad} - 89 = 126 - 99$</p>
<p>Hei awhina i te kaiako</p>	<p>1. Tirohia he rerekē te raupapa aronga i waenga i te tāpiritanga me te tango me ngā ākonga i a koe e mahi ana i tua atu i te tāpiritanga me te whakamutu i tētahi rongoā hē pēnei i te $23 - 17 = 25 - 15$. Kia whai matapakinga ki ngā ākonga kia kite i te rerekētanga i waenga i ngā rerenga tau tuwhera me te tāpiritanga me te tango (hei tauira, ko tētahi whakaritenga o +1, -1 i te wā e tango ana i tētahi whakaritenga o +1, +1, -1 rānei, -1).</p> <p>1. Ka taea e ētahi ākonga te mahi i tētahi taha, ā, ko tētahi kia ōrite ki te tau kotahi. Heoi anō, ko te arotahi matua ko te whakatū i ngā ākonga hei whakamahi i ngā pātahitanga puta noa i te tohu ōrite.</p> <ul style="list-style-type: none"> • Ka aro atu ki ngā ākonga e whakamahi ana i ngā momo whakaaro pānga me ngā rerenga tau me ngā pere hei miramira i tēnei.
<p>Rapanga Motuhake</p>	<p>Kimihia ngā tau ngaro:</p> <p>$18 + 15 = \underline{\quad} + 16$</p> <p>$\underline{\quad} + 27 = 14 + 29$</p> <p>$123 + \underline{\quad} = 133 + 18$</p> <p>$64 + 38 = 62 + \underline{\quad}$</p> <p>$157 + 178 = \underline{\quad} + 168$</p> <p>Use arrows to show your thinking.</p>
<p>Ma te kaiako</p>	

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<p>Rapanga 9</p>	<p>I kī a Jonty "Ina tāpiri tahi koe i ngā tau e rua, ehara i te mea ko tēhea te raupapa e whakamahia ana e koe hei tāpiri, ka ōrite te whakautu".</p> <p>Mahi i roto i tētahi rōpū me te hōpara mēnā kei te whakaae, ka whakahē rānei koe ki tēnei tauākī.</p> <p>Ka taea e koe te whakamātau e mahi ana mō ngā tau katoa?</p> <p>He aha hoki te kōrero a Jonty e mahi ana mo te mahi iti, te whakarea, me te wehenga?</p>
<p>Whakaaro matua o te Ao Pangarau</p>	<p>Tērā ētahi āhuatanga tauhanga e whakaahua ana i te tāpiritanga me te whakarea hei mahi. Ko ēnei te āhuatanga kōaro, ā-waha, ā-waha, me ngā āhuatanga tuakiri. He pātahitanga kōaro tō te tāpiritanga me te whakarea me te whakareatanga me te wehenga.</p>
<p>Nga tin mata o te marautanga</p>	<p>Te Whakaaro Taurangi Tau 3 whakamahi i te pāheko tapiripritanga: h.t., $4 + 0 = 4$ me te $5 - 0 = 5$</p> <p>Te Whakarōpū, Te Wāwahi Tau me te Uara Tū Tau 3</p> <ul style="list-style-type: none"> • wāwāhi me te whakarōpū i ngā tau, ki te 100 • whakawhiti i ngā whānau 10 ki ngā whānau 100: h.t., 240 ngā tekau = e 2 ngā rau, e 4 ngā tekau • tautohu i te uara tū, te uara mati, me te uara katoa o tētahi tau, ki te 100: h.t., $46 = 40 + 6$. • whakamahi tauhono o te 100: h.t., $40 + 60 = 100$ • kōrero i te maha o ngā 10 kei roto i tētahi tau mati-3 <p>Nga Pāheko Tau 3</p> <ul style="list-style-type: none"> • tāpiri me te tango huinga ki te 100: h.t., $53 + 21$, $55 - 32$. • tāpiri me te tango tauoti mati- 2, mati-3 ki te 1,000: h.t., $400 + 600$ me te $200 + 700$. • Ngā wharite me ngā panga Tau 4 • tuhi me te whakaoti whārite pono, whārite parau rānei, whārite whānui hoki e whai wāhi mai ana te whakarea me te whakawehe, he whakamahi i tōna mōhiotanga ki te tohu ōrite: h.t., $5 \times \underline{\quad} = 20$, $\underline{\quad} \div 3 = 6$.
<p>Whaingā Ako Ka ako nga mokopuna ki te:</p>	<p>Whakamārama me te whakatautika i te āhuatanga kōaro. Whakamahia ngā whakaaturanga rerekē tae atu ki ngā rauemi raima, ngā whakaaturanga, me te tuhipoka hei tohu i tētahi āhuatanga.</p>
<p>Ngā tini mata o te Reo Pāngarau</p>	<p>Ko te āhuatanga ā-iwi, te whakaputa, te whakatika, te ahuwānuitanga, te tāpiritanga, te tangohia, te whakareatanga, te wehenga.</p>
<p>Connect</p>	<p>Tīpakohia ngā rōpū kua hanga tauira raima hei tiritiri i ā rātou whakawāteatanga.</p>

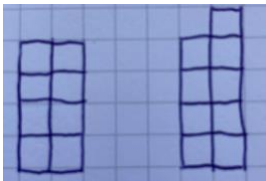
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	<p>Miramiratia ki ngā ākongā ka taea te whakamahi i ngā pū, tohu rānei ki te pāngarau hei tohu i ētahi tau.</p> <p>Ahuwhānui: Ka taea e koe te tohu i ngā āhuatanga i mahia e koe mā te whakamahi i tētahi tauākī, he hoahoa me tētahi rerenga tau (hei tauira, $\Delta + \square = \square + \Delta$)?</p>
<p>Hei awahina i te kaiako</p>	<ol style="list-style-type: none"> 1. Ka tīmata pea ngā ākongā mā te whakamātau i ngā tauira rerekē me ngā tau me ngā momo tau rerekē (hei tauira, nui, iti, hautanga). I muri i to rātau hōparatanga i ngā tauira maha, ka tohuāki i a rātau mā te pātai mēnā ka taea e rātau te whakamātau ka mahi tahi me ia tau. 2. Kia whai taputapu tika mā ngā ākongā hei hanga tauira raima hei whakamātau i ā rātau āhuatanga (hei tauira, ngā kaikaute, te pepa mātiti, ngā papa peg). 3. Tirohia ngā ākongā e tātuhi ana i runga i te āhuatanga kōaro me te mōhiotanga e mahi ana mō te tāpiritanga me te whakarea, engari ehara mō te tangohia me te wehenga. <ul style="list-style-type: none"> • Ka taea e ngā ākongā te hanga tauira kaitatau hei whakamātau i te āhuatanga kōaro kāore e pā ana ki te mahiroto, ki te wehenga rānei. Ka taea hoki e ngā ākongā te whakaputa i ngā kēhi motuhake (hei tauira, $5 - 5 = 5 - 5$).
<p>Rapanga Motuhake</p>	<p>Kimihia ngā tau ngaro:</p> <p>$46 - 18 = _ - 16$</p> <p>$67 - 49 = _ - 48$</p> <p>$_ - 25 = 63 - 15$</p> <p>$193 - _ = 93 - 29$</p>
<p>Ma te kaiako</p>	

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<p>Rapanga 10</p>	<p>He aha tāu e mōhio ana mō ngā tau rerekē, ahakoa hoki? Whakamahia ngā taputapu hei hanga tauira o ngā tau rerekē, tae atu hoki. He aha ngā tauira ka kitea e koe e pā ana ki ngā tau rerekē, ahakoa hoki? E mahi ana tēnei i ngā wā katoa?</p>
<p>Whakaaro matua o te Ao Pangarau</p>	<p>Tērā ētahi āhuatanga tauhanga e whakaahua ana i te tāpiritanga me te whakarea hei mahi. Ko ēnei te āhuatanga kōaro, ā-waha, ā-waha, me ngā āhuatanga tuakiri. He pātahitanga kōaro tō te tāpiritanga me te whakarea me te whakareatanga me te wehenga. Ka taea te whakaahua i ngā pātahitanga me ngā ahuwāhānuitanga i mahia mō ngā āhuatanga pāngarau e whai tau ana, ahanoa rānei e tārua ana, e tipu ana rānei i ngā huarahi mōhiohia.</p>
<p>Nga tini mata o te marautanga</p>	<p>Te Whakaaro Taurangi Tau 3 whakamahi i te pāheko tapiripritanga: h.t., $4 + 0 = 4$ me te $5 - 0 = 5$ Te Whakarōpū, Te Wāwahi Tau me te Uara Tū Tau 3</p> <ul style="list-style-type: none"> • wāwāhi me te whakarōpū i ngā tau, ki te 100 • whakawhiti i ngā whānau 10 ki ngā whānau 100: h.t., 240 ngā tekau = e 2 ngā rau, e 4 ngā tekau • tautohu i te uara tū, te uara matī, me te uara katoa o tētahi tau, ki te 100: h.t., $46 = 40 + 6$. • whakamahi tauhono o te 100: h.t., $40 + 60 = 100$ • kōrero i te maha o ngā 10 kei roto i tētahi tau mati-3 <p>Nga Pāheko Tau 3</p> <ul style="list-style-type: none"> • tāpiri me te tango huinga ki te 100: h.t., $53 + 21$, $55 - 32$. • tāpiri me te tango tauoti mati- 2, mati-3 ki te 1,000: h.t., $400 + 600$ me te $200 + 700$. • Ngā wharite me ngā panga Tau 4

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	<ul style="list-style-type: none"> tuhi me te whakaoti whārite pono, whārite parau rānei, whārite whānui hoki e whai wāhi mai ana te whakarea me te whakawehe, he whakamahi i tōna mōhiotanga ki te tohu ōrite: h.t., $5 \times _ = 20$, $_ \div 3 = 6$.
Whaingā Ako Ka ako nga mokopuna ki te:	Whakamāramatia te hanganga o ngā tau rerekē, tae atu hoki. Whakamahia ngā rauemi raima hei whakatautika i ngā āhuatanga mō ngā tau rerekē, tae atu hoki. Te hanga i ngā tikanga o ngā tau rerekē, tae atu hoki.
Ngā tini mata o te Reo Pāngarau	Ngā tau rerekē, ahakoa ngā tau, te ahuwānuitanga, ngā tauira.
Wa toha me te hononga	<p>Tīpakohia ngā rautaki rongoā ākongā e whakamahi ana i tētahi tauira raima ka taea te whakamahi hei whakatautika i te whakamāramatanga o tētahi tau rerekē, tau rānei. Pātai atu ki ngā ākongā kia hanga i tētahi whakamāramatanga me te whakaaro mēnā ka mahi tonu tēnei mō ia tau rerekē, ia tau rānei.</p>  <p>Model of even and odd numbers</p> <p>Connect:</p> <p>Pātai atu ki ngā ākongā kia whakamahi i ā rātou tikanga kia kite ai mēnā he rerekē, he rerekē rānei ngā tau e whai ake nei: 312 544 2867 1002 9836 2345</p> <p>Tautoko i ngā ākongā kia mōhio ai ko te mati whakamutunga e whakatau ana i te rerekētanga, i te āhuatanga rānei o te tau me te miramira i tēnei ki ngā ākongā katoa.</p>
Hei awahina i te kaiako	<ol style="list-style-type: none"> I muri i te tiritahitanga a ngā ākongā i ngā mea e mōhio ana rātau mō ngā tau rerekē, ahakoa ngā tau, whakapūketetia ngā kōrero katoa i runga i te papa. Pātai atu ki ngā ākongā kia whakamahi i ngā rauemi raima hei hanga tauira o te rerekē me ngā tau kia kite ai mēnā ka mahi ngā tauākī. Tono atu ki ngā ākongā kia whakamahi i ngā momo rauemi raima rerekē hei hanga i ngā tauira hei tautoko i a rātou kia tīmata ki te whakaaro mo te hanganga o ngā tau. E wātea ana hei whakamahi: pepa mātiti, kupiki hono-maha, ngā kaikaute, ngā papa-papa, me ngā rākau paraka hukapapa. <ul style="list-style-type: none"> Tautoko i ngā ākongā hei hanga i ngā tikanga pāngarau tika (hei tauira, ka taea te whakawehe i tētahi tau ahakoa e rua, ā, ka whakamutua e koe ki te tau katoa ōrite i ngā rōpū e rua. Ina

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	wehe koe i tētahi tau rerekē mā te rua ka mutu i a koe ki te taha mauī kotahi.
Rapanga Motuhake	Whakaotia ngā rapanga e whai ake nei: $27 + 125 =$ $156 - \underline{\quad} = 13$ $\underline{\quad} + 72 = 188$ $13 + 155 =$ $50 = \underline{\quad} + \underline{\quad}$ $46 = \underline{\quad} + \underline{\quad}$ $52 + 19 =$ $36 + 152 =$
Ma te kaiako	

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<p>Rapanga 11</p>	<p>Whakaotia ngā raruraru e whai ake nei:</p> $56 - 37 =$ $183 - 138 =$ $54 + 37 =$ $139 + 46 =$
<p>Whakaaro matua o te Ao Pangarau</p>	<p>Ka whakamahia ngā tau hei whakaingoa i ngā rahinga tauwhāiti. Ka taea te whakawātea i ngā tau ki ngā wāhanga i roto i ngā huarahi kāore e taea te huri i te nuinga.</p> <p>Tērā ētahi āhuatanga tauhanga e whakaahua ana i te tāpiritanga me te whakarea hei mahi. Ko ēnei te āhuatanga kōaro, ā-waha, ā-waha, me ngā āhuatanga tuakiri. He pātahitanga kōaro tō te tāpiritanga me te whakarea me te whakareatanga me te wehenga.</p> <p>E whakaatu ana ngā whārite i ngā pātahitanga o te ōritetanga i waenganui i ngā wāhanga i ia taha o te tohu ōrite. Ko ngā āhuatanga o te ōritetanga ko: Mēnā ka tāpirihia, ka whakaritea rānei te tau tūturu ōrite ki ngā taha e rua o tētahi whārite, ka pupuritia te ōritetanga; Mēnā ka whakanuia, ka wehea rānei ngā taha e rua o tētahi whārite e te tau tūturu ōrite (kāore e whakawehea e te 0), ka pupuritia te ōritetanga; E rua nga rahinga e ōrite ana ki te nuinga tuatoru kotahi e ōrite ana ki a rāua anō.</p>
<p>Nga tini mata o te marautanga</p>	<p>Te Whakaaro Taurangi Tau 3 whakamahi i te pāheko tapiripritanga: h.t., $4 + 0 = 4$ me te $5 - 0 = 5$</p> <p>Te Whakarōpū, Te Wāwahi Tau me te Uara Tū Tau 3</p> <ul style="list-style-type: none"> • wāwāhi me te whakarōpū i ngā tau, ki te 100 • whakawhiti i ngā whānau 10 ki ngā whānau 100: h.t., 240 ngā tekau = e 2 ngā rau, e 4 ngā tekau • tautohu i te uara tū, te uara mati, me te uara katoa o tētahi tau, ki te 100: h.t., $46 = 40 + 6$. • whakamahi tauhono o te 100: h.t., $40 + 60 = 100$ • kōrero i te maha o ngā 10 kei roto i tētahi tau mati-3 <p>Nga Pāheko Tau 3</p> <ul style="list-style-type: none"> • tāpiri me te tango huinga ki te 100: h.t., $53 + 21$, $55 - 32$. • tāpiri me te tango tauoti mati- 2, mati-3 ki te 1,000: h.t., $400 + 600$ me te $200 + 700$. <p>Ngā wharite me ngā panga Tau 4</p> <ul style="list-style-type: none"> • tuhi me te whakaoti whārite pono, whārite parau rānei, whārite whānui hoki e whai wāhi mai ana te whakarea me te whakawehe, he whakamahi i tōna mōhiotanga ki te tohu ōrite: h.t., $5 \times _ = 20$, $_ \div 3 = 6$.

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<p>Whaingā Ako Ka ako ngā mokopuna ki te:</p>	<p>Whakamahia te tangohia i ētahi wāhanga hei whakatika i ngā raruraru whakaururoto. Whakamahia te uara wāhi hei whakatika i ngā raruraru tāpiri. Whakamahia te bridging ki te tekau tau tata rawa hei whakatika i ngā raruraru tāpiri Whakamahia te ōritetanga me te utu hei whakatika i te tangohia me ngā raruraru tāpiri. E whakaatu ana i te whakaaro mā te whakamahi i tētahi raina tau me te tuhipoka.</p>
<p>Nga Tini mata o te reo Pāngarau</p>	<p>Tekau Kotahi, tāpiri, tano</p>
<p>Wa toha me te hononga</p>	<p>Tīpakohia ngā rautaki rongoā ākongā i reira i whakaritea ai e rātou ki ētahi wāhanga, he uara wāhi hei tāpiri, hei whakamahi rānei i te ōritetanga me te utu.</p> <p>Hono:</p> <p>Pātai atu ki ngā ākongā kia whakaahua me pēhea tō whakatika i ngā whārite e whai ake nei mā te uara wāhi, e whakawhāiti ana ki te tekau tau tata rawa, te mahiroto i ngā wāhanga, i te ōritetanga rānei me te utu:</p> <p>$73 - 24 =$ $39 + 163 =$</p>
<p>Hei awahina i te kaiako</p>	<ol style="list-style-type: none"> 1. Kia wātea ngā rauemi raima mēnā e hiahiatia ana e ngā ākongā hei tīpako (hei tauira, ngā tāpare tekau kua tā kētia, he moni i roto i ngā tuhipoka me ngā mea e \$10, me ngā papa 100). 2. Me mōhio ki ngā ākongā e tāpiri ana i ngā tau mā te whakawhāiti ki te tekau tau tata rawa. 3. E mōhio ana ki ngā ākongā e whakamahi ana i te ōritetanga me te utu. <ul style="list-style-type: none"> • Tatari kia tohu ngā ākongā mā te whakamahi i te raina tau wātea me ngā whārite.
<p>Rapanga Motuhake</p>	<p>Whakaotia ngā raruraru o raro nei:</p> <p>$63 - 19 =$ $45 - 26 =$ $82 - 57 =$ $43 + 118 =$ $112 + 98 =$</p> <p>Whakamahia tētahi raina tau wātea me ngā whārite hei whakaatu me pēhea tō whakaoti.</p>

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<p>Ma te kaiako</p>	
<p>Rapanga 12</p>	<p>Whakaotia ngā rapanga e whai ake nei:</p> $59 + 64 =$ $657 + 35 =$ $94 - 37 =$ $153 - 49 =$ $121 - 68 =$
<p>Whakaaro matua o te Ao Pangarau</p>	<p>Ka whakamahia ngā tau hei whakaingoa i ngā rahinga tauwhāiti. Ka taea te whakawātea i ngā tau ki ngā wāhanga i roto i ngā huarahi kāore e taea te huri i te nuinga.</p> <p>Tērā ētahi āhuatanga tauhanga e whakaahua ana i te tāpiritanga me te whakarea hei mahi. Ko ēnei te āhuatanga kōaro, ā-waha, ā-waha, me ngā āhuatanga tuakiri. He pātahitanga kōaro tō te tāpiritanga me te whakarea me te whakareatanga me te wehenga.</p> <p>E whakaatu ana ngā whārite i ngā pātahitanga o te ōritetanga i waenganui i ngā wāhanga i ia taha o te tohu ōrite. Ko ngā āhuatanga o te ōritetanga ko: Mēnā ka tāpirihia, ka whakaritea rānei te tau tūturu ōrite ki ngā taha e rua o tētahi whārite, ka pupuritia te ōritetanga; Mēnā ka whakanuia, ka wehea rānei ngā taha e rua o tētahi whārite e te tau tūturu ōrite (kāore e whakawehea e te 0), ka pupuritia te ōritetanga; E rua ngā rahinga e ōrite ana ki te nuinga tuatoru kotahi e ōrite ana ki a rāua anō.</p>

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<p>Nga tini mata o te marautanga</p>	<p>Te Whakaaro Taurangi Tau 3 whakamahi i te pāheko tapiripritanga: h.t., $4 + 0 = 4$ me te $5 - 0 = 5$ Te Whakarōpū, Te Wāwahi Tau me te Uara Tū Tau 3</p> <ul style="list-style-type: none"> • wāwāhi me te whakarōpū i ngā tau, ki te 100 • whakawhiti i ngā whānau 10 ki ngā whānau 100: h.t., 240 ngā tekau = e 2 ngā rau, e 4 ngā tekau • tautohu i te uara tū, te uara mati, me te uara katoa o tētahi tau, ki te 100: h.t., $46 = 40 + 6$. • whakamahi tauhono o te 100: h.t., $40 + 60 = 100$ • kōrero i te maha o ngā 10 kei roto i tētahi tau mati-3 <p>Nga Pāheko Tau 3</p> <ul style="list-style-type: none"> • tāpiri me te tango huinga ki te 100: h.t., $53 + 21$, $55 - 32$. • tāpiri me te tango tauoti mati- 2, mati-3 ki te 1,000: h.t., $400 + 600$ me te $200 + 700$. • Ngā wharite me ngā panga Tau 4 • tuhi me te whakaoti whārite pono, whārite parau rānei, whārite whānui hoki e whai wāhi mai ana te whakarea me te whakawehe, he whakamahi i tōna mōhiotanga ki te tohu ōrite: h.t., $5 \times _ = 20$, $_ \div 3 = 6$.
<p>Whaingā Ako Ka ako nga mokopuna ki te:</p>	<p>Whakamahia te tangohia i ētahi wāhanga hei whakatika i ngā raruraru whakaururoto. Whakamahia te uara wāhi hei whakatika i ngā raruraru tāpiri. Whakamahia te bridging ki te tekau tau tata rawa hei whakatika i ngā raruraru tāpiri Whakamahia te ōritetanga me te utu hei whakatika i te tangohia me ngā raruraru tāpiri. E whakaatu ana i te whakaaro mā te whakamahi i tētahi raina tau me te tuhipoka.</p>
<p>Nga Tini mata o te reo Pangarau</p>	<p>Rau, tekau, Kotahi, tāpiri, tango</p>
<p>Wa toha me te hononga</p>	<p>Tīpakohia ngā rautaki rongoā ākongā i reira i whakaritea ai e rātou ki ngā wāhanga, ki te whakamahi rānei i te ōritetanga me te utu. Whakaaturia tēnei ki ngā whārite me tētahi raina tau wātea.</p> <p>Hono:</p> <p>Pātai atu ki ngā ākongā kia whakaahua me pēhea tō whakatika i ngā whārite e whai ake nei mā te whakamahi i te mahiroto i ngā wāhanga, i te ōritetanga rānei me te utu:</p> <p>$165 - 59 =$</p>

Level 2 – Year 3 teacher booklet: Tau me te Taurangi

	113 – 87 =
Hei awhina i te kaiako	<ol style="list-style-type: none"> 1. Homai he rawa hei āwhina i ngā ākonga e hiahia ana kia uru ki te pāngarau. 2. Me mōhio ki ngā ākonga e tāpiri ana i ngā tau mā te whakawhāiti ki te tekau tau tata rawa. 3. E mōhio ana ki ngā ākonga e whakamahi ana i te whakatata me te tauwhiti. <ul style="list-style-type: none"> • Tatari kia tohu ngā ākonga mā te whakamahi i te raina tau wātea me ngā whārite. Kua tāngia hoki, kua wātea rānei ngā tāpare tekau mā rua kia tauira ai ngā ākonga i tā rātou rautaki rongoā.
Rapanga Motuhake	<p>Tīpakohia tētahi, ētahi rānei o ngā tūmahi aromatawai e whai ake nei (kua āpitihia ki te mutunga o te tuinga) hei hohenga takitahi:</p> <p>N1A: Ngā rapanga tāpiri me te Mahiroto hei whakaoti.</p> <p>N1AB: Ngā Rapanga Tāpiri me te Mahiroto hei whakaoti (tūmahi parallel).</p> <p>N3A: Ngā tauira i roto i ngā rerenga tau.</p> <p>N3AB: Ngā tauira i roto i ngā rerenga tau (tūmahi ōrite).</p>
Ma te kaiako	

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DEVELOPING MATHEMATICAL INQUIRY COMMUNITIES ASSESSMENT TASK

NUMBER - ADD / SUB: LEVEL 2 Rapanga N1A

E 27 nga whakapiripiri o Hōria i roto i tana kohinga. He rau tōna me ētahi atu whakapiripiri e 38. E hia nga whakapiripiri kai a Hōria? Whakatika me te whakatautika i tō whakautu.

Kai te tākaro māpere a Hamuera. E 53 māpere tōna, engari e 25 māpere i roto i te kēmu. E hia nga māpere kai a Hamuera ināiane? Whakatika me te whakatautika i tō whakautu.

E 243 nga piro i whiwhi ai te tīma whutupōro o Tatiana i te tau. E 86 nga piro i riro i a rātau i te tīma panuku i te rōpū. He aha te tapeke o te tīma panuku? Whakatika me te whakatautika i tō whakautu.

Tuhia tētahi, ētahi rānei o ngā raruraru kupu mō tētahi hoa e whai ana i te tāpiritanga, te mahiroto rānei. Whakaatu me pēhea tō whakaoti.

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DEVELOPING MATHEMATICAL INQUIRY COMMUNITIES ASSESSMENT TASK

NUMBER - ADD / SUB: LEVEL 2 Rapanga N1AB (Parallel Rapangas)

E 38 nga pere o Mele. Ka kitea e ia he pēke me ētahi atu pere e 24. E hia ngā pere kai a Mele katoa? Whakatika me te whakatautika i tō whakautu.

Kai te kohikohi a Timo i nga paina. E 62 ōna paina, a, e 27 nga paina ki tōna tuahine. E hia nga paina kai a Timo ināianei? Whakatika me te whakatautika i tō whakautu.

E 224 nga piro i whiwhi ai te tīma poipōro o Lily i te tau. E 87 nga piro i riro i a rātau i te tīma panuku i te rōpū. He aha te tapeke o te tīma panuku? Whakatika me te whakatautika i tō whakautu.

Tuhia tētahi, ētahi rānei o ngā raruraru kupu mō tētahi hoa e whai ana i te tāpiritanga, te mahiroto rānei. Whakaatu me pēhea tō whakaoti.

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DEVELOPING MATHEMATICAL INQUIRY COMMUNITIES ASSESSMENT TASKS

NUMBER - PATTERNS: LEVEL 2 Rapanga N3A

$65 + 38$

$89 + 26$

$17 + 45 + 23$

11×7

$38 + 65$

$77 \div 7$

$90 + 25$

$11 + 11 + 11 + 11 + 11 + 11 + 11$

$20 + 30$

7×11

$50 - 20$

$23 + 17 + 45$

Tirohia ngā rerenga tau o runga ake nei.

1. Whakaahuatia he aha ngā tauira ka kitea e koe
2. He aha i mahi ai ō tauira?
3. Kai te mahi rātau me ētahi atu tau?

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DEVELOPING MATHEMATICAL INQUIRY COMMUNITIES ASSESSMENT TASKS

NUMBER - PATTERNS: LEVEL 2 Rapanga N3AB (Parallel Rapanga)

$19 + 67 + 52$

7×5

$78 + 44$

$40 + 30$

$35 \div 7$

$168 + 287$

$79 + 43$

$67 + 52 + 19$

$7 + 7 + 7 + 7 + 7$

5×7

$287 + 168$

$70 - 40$

Tirohia ngā rerenga tau o runga ake nei.

1. Whakaahuatia he aha ngā tauira ka kitea e koe
2. He aha i mahi ai ō tauira?
3. Kai te mahi rātau me ētahi atu tau?