



Parallel line rules

Mana Maths

Te reo Māori terms



rārangi whakarara

parallel lines

Open in Te Aka

ritenga

corresponding

Open in Te Aka

kutikuti

alternate

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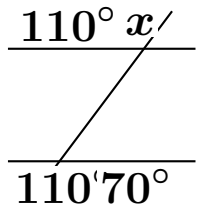
koki roto

interior angle

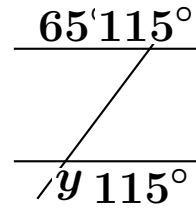
Open in Te Aka

Parallel line rules — Foundation

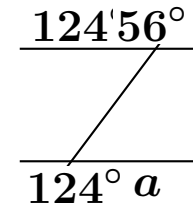
1. Find x .



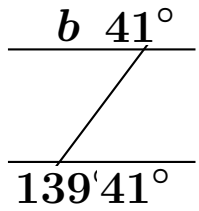
2. Find y .



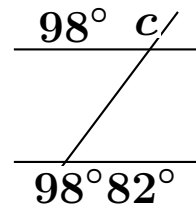
3. Find a .



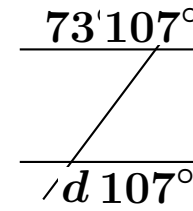
4. Find b .



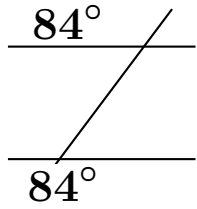
5. Find c .



6. Find d .

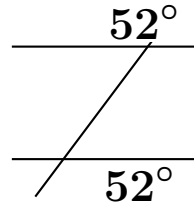


7. Name the rule for the equal angles.



- A. corresponding B. co-interior C. vertically opposite

8. Name the rule for the equal angles.



- A. alternate B. co-interior C. vertically opposite

9. Complete the rule: corresponding angles are _____.

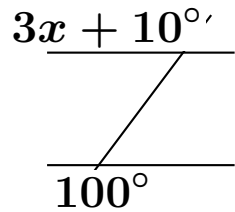
10. Complete the rule: alternate angles are _____.

11. Complete the rule: co-interior angles add to _____.

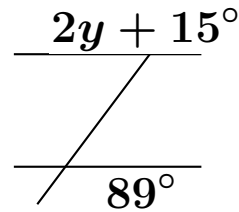
12. One angle is 118° . Find the acute angle made by the same transversal and parallel lines.

Parallel line rules — Proficient

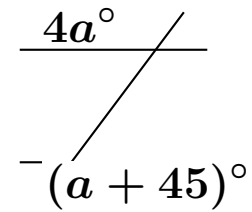
1. Find x .



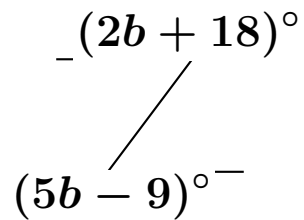
2. Find y .



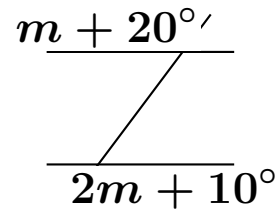
3. Find a .



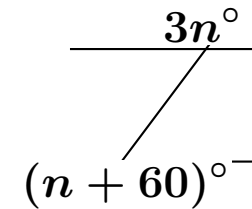
4. Find b .



5. Find m . The marked pair are co-interior.



6. Find n . The marked pair are co-interior.



7. Are the lines parallel? Explain. One pair of corresponding angles is 76° and 76° .

8. Are the lines parallel? Explain. One pair of alternate angles is 121° and 59° .

9. Are the lines parallel? Explain. A pair of co-interior angles is 112° and 68° .

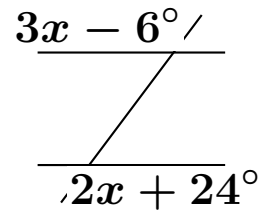
10. One acute angle on the diagram is 38° . List the other three acute/obtuse angle sizes in the diagram.

11. The obtuse angle is 143° . What is the matching corresponding angle and what is the supplementary acute angle?

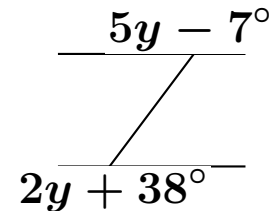
12. A student says co-interior angles are equal. Correct the statement in one sentence.

Parallel line rules — Excellence

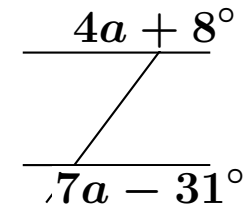
1. Find x and then give all eight angle sizes.



2. Find y and then state the acute angle size.



3. Find a . Then say whether $4a + 8^\circ$ is acute or obtuse.



4. Two co-interior angles are $(6m + 4)^\circ$ and $(3m + 14)^\circ$. Find m and both angles.

5. Two corresponding angles are $(4p + 9)^\circ$ and $(2p + 45)^\circ$. Find p .

6. Two alternate angles are $(5q - 11)^\circ$ and $(3q + 27)^\circ$. Find q .

- 7.** A pair of corresponding angles is 124° and 124° . Explain why that is evidence the lines are parallel.
- 8.** A pair of co-interior angles is 97° and 83° . What conclusion can you make about the lines, and why?
- 9.** A student writes: if two alternate angles add to 180° , the lines are parallel. Explain the mistake.
- 10.** The acute angle is three times smaller than the obtuse angle. Find both angle sizes.
- 11.** The obtuse angle is 18° bigger than twice the acute angle. Find both angle sizes.
- 12.** Write two different facts you can prove once you know one angle is 67° .
- 13.** Explain the difference between corresponding angles and co-interior angles using the words *position* and *sum*.
- 14.** Create your own short parallel-lines problem involving one unknown, then solve it.