Mathematics

Manipulating inequalities

Mr Millar

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Manipulating Inequalities

Downloadable Resource

Mr Millar

Connect

Given that $p > q + 2$

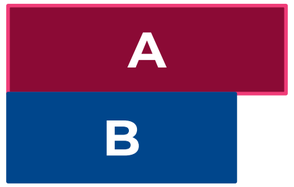
Are the following sometimes, always or never true?

$p + 5 > q + 7$

$2p > 2q + 4$

Independent task

If $A > B$ (and both are positive), are the following inequalities always, sometimes or never true?



$A + 2 > B + 2$

$A > B + 5$

$4A < 3B$

$2A > 2B$

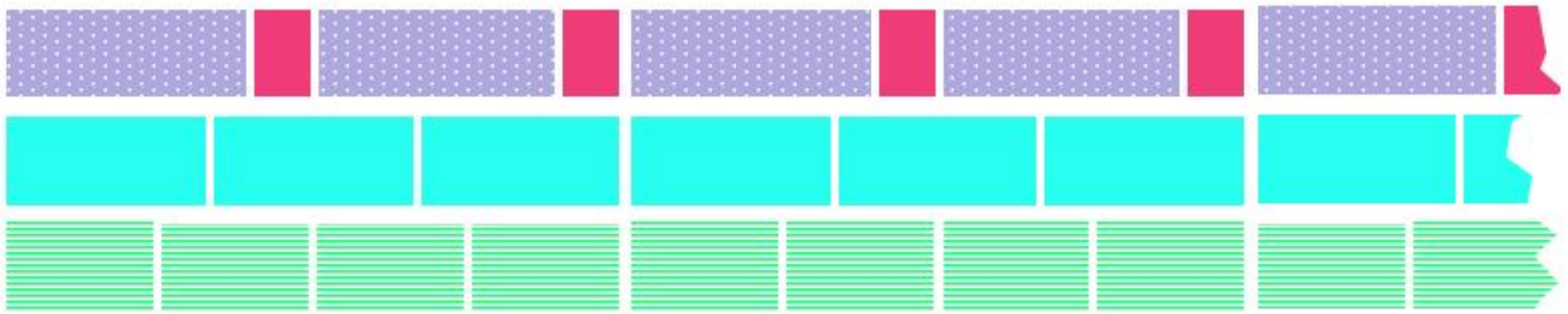
$B - 1 < A$

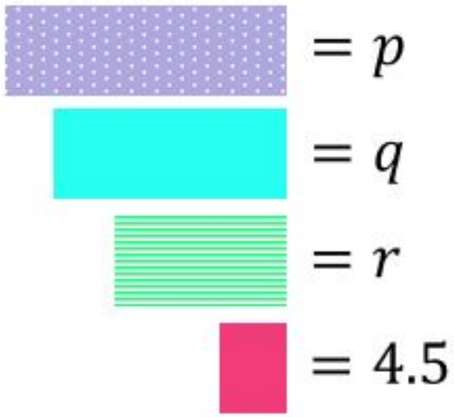
$-A < -B$

Explore

Imagine continuing the repeating pattern in the bar model.

Write a =, < or > in between each pair of cards.





$3q$	$4r$	$2p + 4.5$	$3q$
$12q$	$15r$	$10p + 45$	$15q$

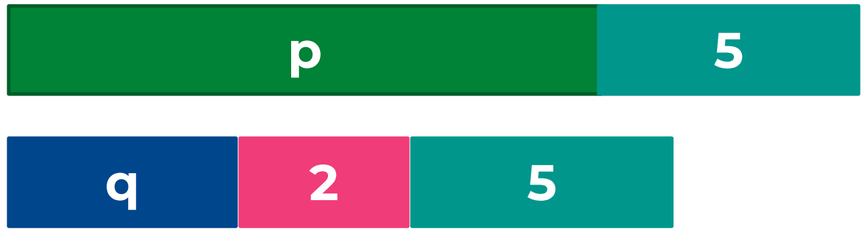
Answers

Try this

Given that $p > q + 2$

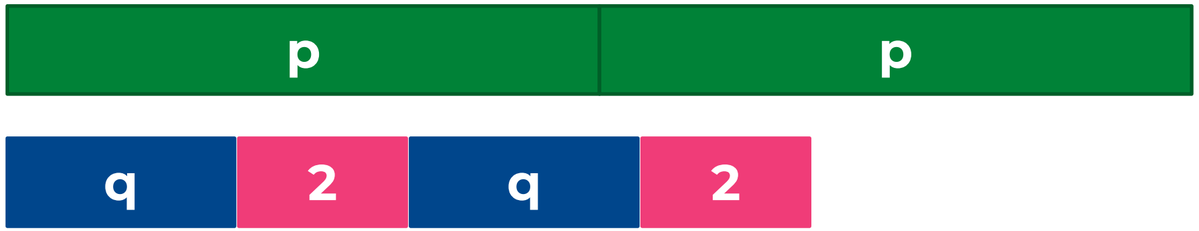
Are the following sometimes, always or never true?

$p + 5 > q + 7$



Always true

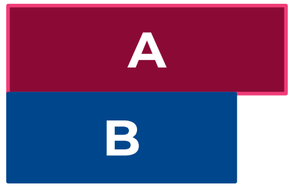
$2p > 2q + 4$



Always true

Independent task

$2A > 2B$



$A + 2 > B + 2$

Always true

$A > B + 5$

Sometimes true

$4A < 3B$

Never true

$2A > 2B$

Always true

$B - 1 < A$

Always true

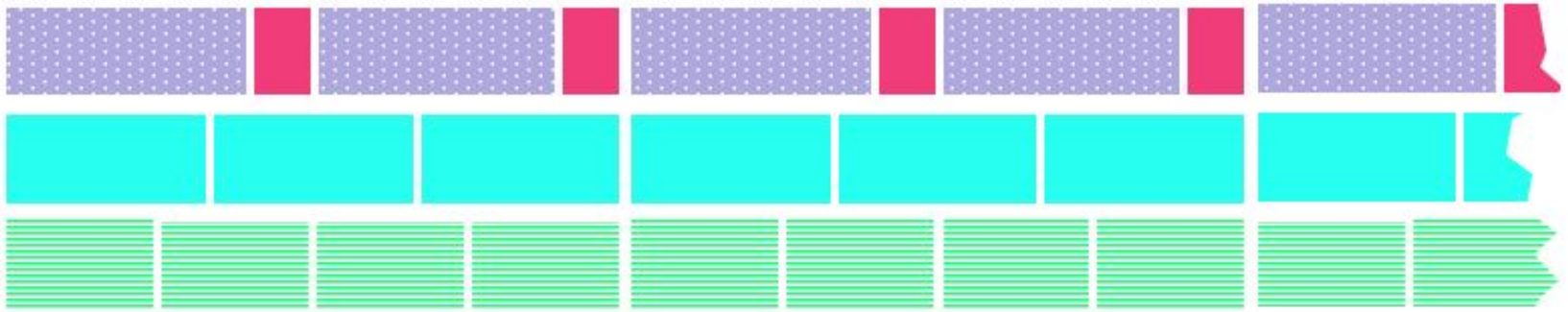
$-A < -B$

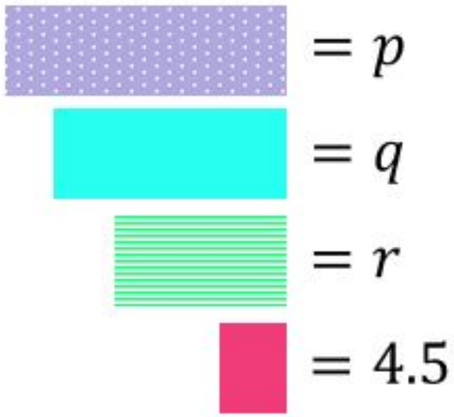
Always true

Try this

Imagine continuing the repeating pattern in the bar model.

Write a =, < or > in between each pair of cards.





$3q$ = $4r$

$2p + 4.5$ < $3q$

$12q$ > $15r$

$10p + 45$ = $15q$