

Number Operations: Inequalities

1. Abigail is thinking of a number:



If I subtract three from my number then my answer is less than four.

a. Could Abigail be thinking of 8? Explain your answer.

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b. What numbers could she be thinking of? Describe them all.

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c. Which of the following means the same as Abigail's statement? Check all that apply.

$x - 3 < 4$

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$3 - x < 4$

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$x - 3 > 4$

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$3 - x > 4$

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2. Benjamin is also thinking of a number:



If I multiply my number by four, then my answer is greater than ten.

a. Write down Benjamin's statement using algebra.

b. What numbers could Benjamin be thinking of? Describe them all.

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3. Fabio says:



The statement is only true when x is greater than 1.

a. Which of the following statements could Fabio be talking about? Check all that apply. Explain your reasoning next to each statement:

$x + 1 < 2$	<input type="checkbox"/>
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$10x > 11$	<input type="checkbox"/>
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$2 - x < 1$	<input type="checkbox"/>
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$\frac{8}{x} < 8$	<input type="checkbox"/>
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$x + 1 > 2$	<input type="checkbox"/>
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$x^2 > x$	<input type="checkbox"/>
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