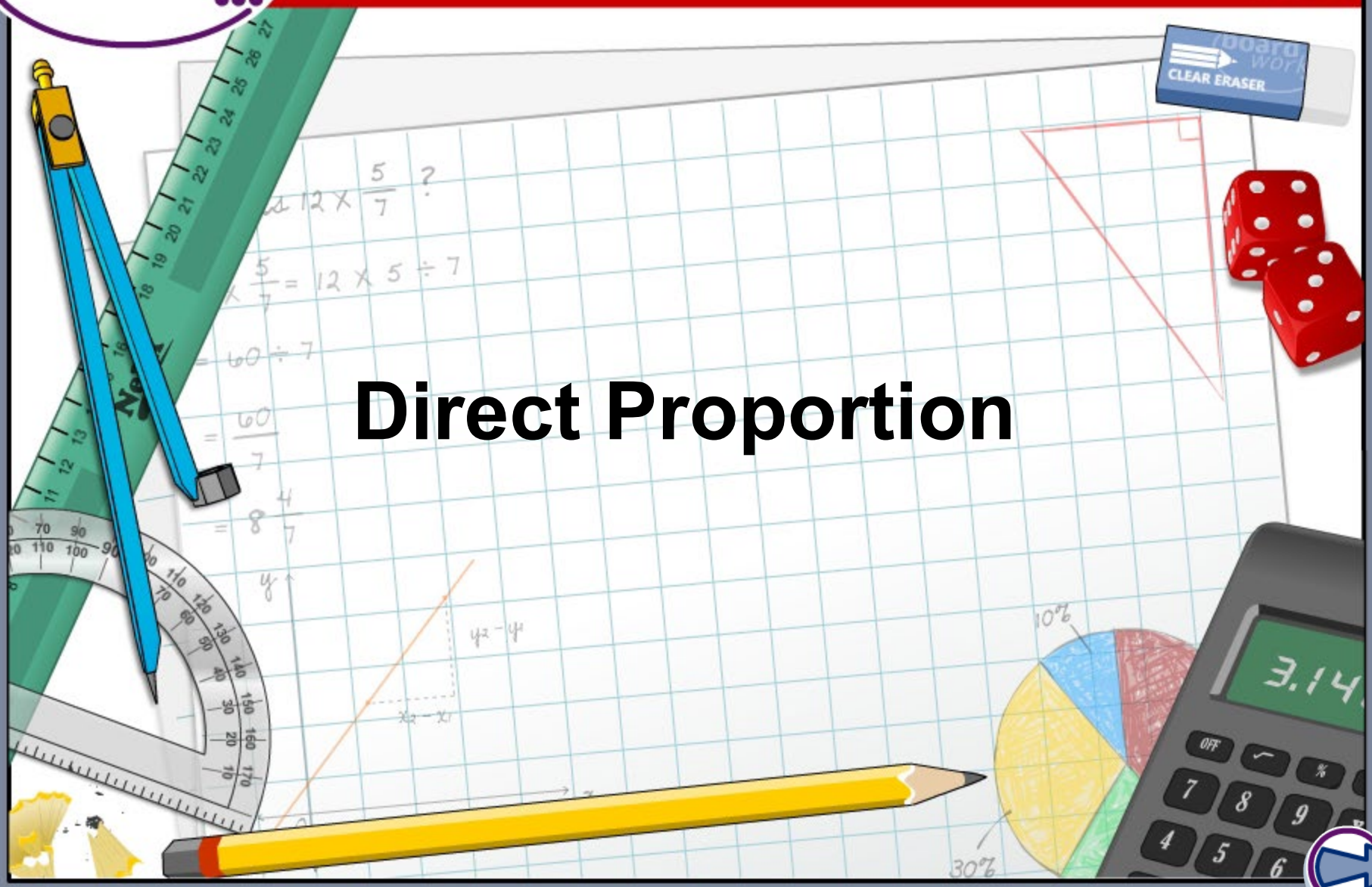

Direct Proportion

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Information

Common core icons

This icon indicates a slide where the Standards for Mathematical Practice are being developed. Details of these are given in the Notes field.

Slides containing examples of mathematical modeling are marked with this stamp.

This icon indicates an opportunity for discussion or group work.

The **Standards for Mathematical Practice** outlined in the Common Core State Standards for Mathematics describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.

These are:

1) Make sense of problems and persevere in solving them.

2) Reason abstractly and quantitatively.

3) Construct viable arguments and critique the reasoning of others.

4) Model with mathematics.

5) Use appropriate tools strategically.

6) Attend to precision.

7) Look for and make use of structure.

8) Look for and express regularity in repeated reasoning.

This icon indicates that the slide contains activities created in Flash. These activities are not editable.

This icon indicates teacher's notes in the Notes field.

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Direct proportion

Marine green turtles have been known to swim 300 miles in 10 days. Imagine that a sea turtle does this while moving at a constant speed. Write an equation to show the relationship between the number of days (x) it takes the turtle to swim y miles.

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Test your knowledge

Decide whether each graph, equation or ratio table represents a direct proportion.
Explain your answers.

Press **start** to begin.

start

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On sale

Is this a direct proportion problem? Explain.

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Say the jeans are only 20% off. Can we use the same equation to find the discount amount?

In this equation, the constant of proportionality is k = \$27. The discount amount is y, and the percentage decrease is x.

We can substitute different values for x to find the discount amount at different markdowns.

Remember to convert percentages to decimals!

Complete the table:

Percent (x) (%)	20	30	40	50	60
Discount (y) (\$)	5.4	8.1	10.8	13.5	16.2

Would a graph of this equation pass through the origin?

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Try it out

The value of Frank's house has gone up by 20% since last year. If the house was worth $250,000 last year, how much is it worth now?

$y = kx$

increase = original cost × percentage increase

= $250,000 × 0.2

= $50,000

The new value = $250,000 + $50,000

= $300,000

Is this the answer the question is looking for?

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Brain stretch

How well do you understand direct proportion? Test your knowledge with these tricky problems.

Press **start** to begin.

start

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