

**Solving One-Variable Equations and Inequalities***Evaluate*

- 1 A clothing store decided to increase the price on several items in the store. The table shows the original price, p , and the new price, n , of four of the items.

Price Increase

Item	Original Price (p)	New Price (n)
A	\$15.00	\$18.75
B	\$18.00	\$22.50
C	\$25.00	\$31.25
D	\$30.00	\$37.50

Which formula can be used to calculate the new price?

- A** $n = p + 3.75$
- B** $n = p \times 1.25$
- C** $n = p + 4.5$
- D** $n = p \times 0.75$

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- 2 Which situation is best represented by the equation below?

$$3x = 12$$

- A** Tony earned 3% commission on a sale of \$12. What is x , the amount of commission he earned?
- B** Molly worked 3 hours and earned \$12. What is x , the amount of money she earned per hour?
- C** Carly had 12 balloons and gave 3 balloons to her brother. What is x , the number of balloons Carly has now?
- D** Gerald had 12 library books after returning 3. What is x , the number of books Gerald checked out from the library?



3 The model below represents the equations $2x = 6$



What is the first step in finding the value of x ?

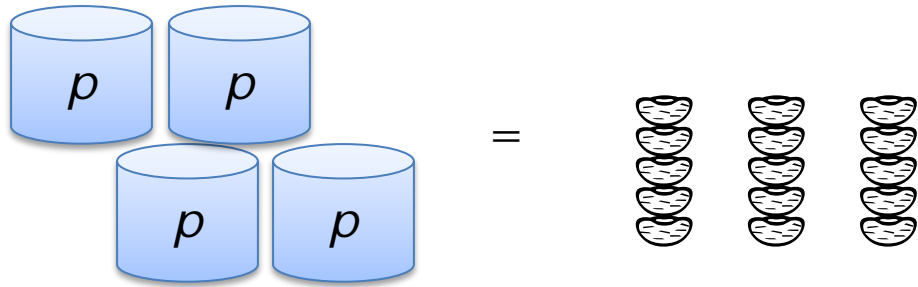
- A Add 6 lightning bolts to each side of the model.
- B Add 6 negative lightning bolts to each side of the model.
- C Subtract 6 lightning bolts from each side of the model.
- D Divide the 6 lightning bolts among the 2 pentagons.

4 Daniel wants to buy a used video game that cost more than \$12.50. He has already saved \$8. The inequality $x + 8 \geq 12.5$ can be used to determine the amount of money, x , he must save in order to buy the video game. Which number line best represents the solution to the inequality?

- A
- B
- C
- D



5 The equation $4p = 15$ is modeled below.



What value of p makes this equation true?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

					.		
⊕	⓪	⓪	⓪	⓪		⓪	⓪
⊖	①	①	①	①		①	①
	②	②	②	②		②	②
	③	③	③	③		③	③
	④	④	④	④		④	④
	⑤	⑤	⑤	⑤		⑤	⑤
	⑥	⑥	⑥	⑥		⑥	⑥
	⑦	⑦	⑦	⑦		⑦	⑦
	⑧	⑧	⑧	⑧		⑧	⑧
	⑨	⑨	⑨	⑨		⑨	⑨



6 Samantha has a maximum of \$100 to spend on her birthday party. The birthday cake costs \$32. She can spend d dollars to buy other things for her party. Which inequality can be used to find the possible values for d ?

A $d + 32 \geq 100$

B $d - 32 \leq 100$

C $d + 32 \leq 100$

D $d - 32 \geq 100$

7 Which equation has a solution of $\frac{3}{4}$ for x ?

A $16x = 12$

B $x - \frac{1}{4} = 1$

C $6x = 8$

D $1\frac{3}{4} + x = 2$

