

Bell Work

1. Simplify: $|1 - 7| - |7 - 1|$
- A. 24 C. 0
B. 12 D. -12
2. Simplify: $\sqrt{10} - 3\sqrt{10} + 7\sqrt{10}$
- A. $5\sqrt{10}$ C. $3\sqrt{10}$
B. $4\sqrt{10}$ D. $-3\sqrt{10}$

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1. a. Sandra has 6 grandchildren, and she gave each of them \$24.50. How much money did she give to her grandchildren altogether? **\$147 total**
- b. Nita bought some games for her grandchildren for \$42.50 each. If she spent a total of \$340, how many games did Nita buy? **\$8 each**
- c. Helen gave each of her 7 grandchildren an equal amount of money. If she gave a total of \$227.50, how much did each grandchild get? **\$32.50 each**

$$a) 6(24.50) =$$

$$b) \frac{\$340}{\$42.50} =$$

$$c) \frac{\$227.50}{7} =$$

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2. Sophia's dad paid \$43.25 for 12.5 gallons of gas. What is the cost of one gallon of gas?

$$43.25 \div 12.5$$

$$\$3.46$$

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3. Hallie is in 6th grade and she can buy movie tickets for \$8.25. Hallie's father was in 6th grade in 1987 when movie tickets cost \$3.75.
- a. When he turned 12, Hallie's father was given \$20.00 so he could take some friends to the movies. How many movie tickets could he buy with this money? **5**
- b. How many movie tickets can Hallie buy for \$20.00? **2**
- c. On Hallie's 12th birthday, her father said,
When I turned 12, my dad gave me \$20 so I could go with three of my friends to the movies and buy a large popcorn. I'm going to give you some money so you can take three of your friends to the movies and buy a large popcorn.
How much money do you think her father should give her? **around \$40**

$$a) \frac{20.00}{3.75} = 5.33$$

$$b) \frac{20.00}{8.25} = 2.42$$

$$c) \underbrace{8.25}_{\text{Hallie}} + \underbrace{3(8.25)}_{\text{3 friends}} = 33 \leftarrow \text{plus popcorn!}$$

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4. Nina was finding multiples of 6. She said, 18 and 42 are both multiples of 6, and when I add them, I also get a multiple of 6: $18+42=60$.

Explain to Nina why adding two multiples of 6 will always result in another multiple of 6.

Multiplication is repeated addition

$$6 + 6 + 6 = 3 \times 6 = 18$$

$$6 + 6 + 6 + 6 + 6 + 6 + 6 = 7 \times 6 = 42$$

So when you add 18 and 42 together to get 60, what you're doing is

$$6 + 6 + 6 + 6 + 6 + 6 + 6 + 6 + 6 + 6 = 10 \times 6 = 60$$

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5. On the same winter morning, the temperature is -28° in Anchorage, Alaska and 65° in Miami, Florida. How many degrees warmer was it in Miami than in Anchorage on that morning?

$$65 - (-28) = 93^\circ \text{ warmer}$$

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6. Denver, Colorado is called "The Mile High City" because its elevation is 5280 feet above sea level. Someone tells you that the elevation of Death Valley, California is -282 feet.

- Is Death Valley located above or below sea level? Explain.
- How many feet higher is Denver than Death Valley?
- What would your elevation be if you were standing near the ocean?

a) Below b/c it's negative

$$b) 5280 - (-282) = 5562 \text{ ft.}$$

c) 0, or around 0.

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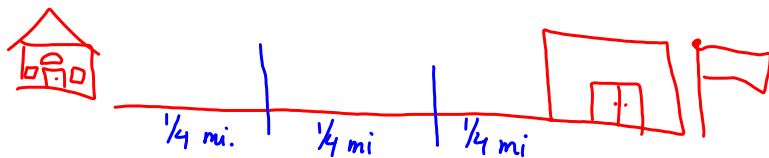
7. Ocean water freezes at about $-2\frac{1}{2}^\circ\text{C}$. Fresh water freezes at 0°C . Antifreeze, a liquid used to cool most car engines, freezes at -64°C . Imagine that the temperature is exactly at the freezing point for ocean water. How many degrees must the temperature drop for the antifreeze to turn to ice?

$$-64 - (-2.5) = -61\frac{1}{2}^\circ\text{C}$$

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8. Rosa ran $\frac{1}{3}$ of the way from her home to school. She ran $\frac{1}{4}$ mile. How far is it between her home and school?

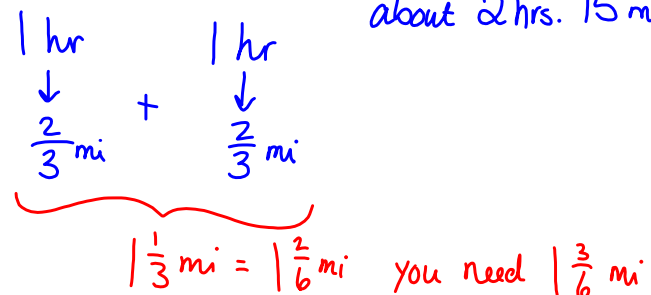
$\frac{3}{4}$ miles



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9. You are stuck in a big traffic jam on the freeway and you are wondering how long it will take to get to the next exit, that is $1\frac{1}{2}$ miles away. You are timing your progress and find that you can travel $\frac{2}{3}$ of a mile in one hour. If you continue to make progress at this rate, how long will it be until you reach the exit? Solve the problem with a diagram and explain your answer.

about 2 hrs. 15 min



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10. It requires $\frac{1}{4}$ of a credit to play a video game for one minute.

a. Emma has $\frac{7}{8}$ credits. Can she play for more or less than one minute? Explain how you know. **more**

b. How long can Emma play the video game with her $\frac{7}{8}$ credits? **3 minutes**

$$a) \frac{1}{4} = \frac{2}{8} < \frac{7}{8}$$

$$b) \frac{7}{8} - \frac{2}{8} = \frac{5}{8} - \frac{2}{8} = \frac{3}{8} - \frac{2}{8} = \frac{1}{8}$$

\uparrow \uparrow \uparrow
 1 min 1 min 1 min

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11. Three math classes at Sunview High School collected the most box tops for a school fundraiser, and so they won a \$600 prize to share among them. Mr. Aceves' class collected 3,760 box tops, Mrs. Baca's class collected 2,301, and Mr. Canyon's class collected 1,855. How should they divide the money so that each class gets the same fraction of the prize money as the fraction of the box tops that they collected?

$\begin{array}{r} 3,760 \\ 2,301 \\ 1,855 \\ \hline 7916 \end{array}$	<p>Mr. A: $\frac{3760}{7916} = \frac{x}{600}$</p> $225600 = 7916x$ $\$284.99 = x$
<p>Mr. C:</p> $\frac{1855}{7916} = \frac{x}{600}$ $113000 = 7916x$ $\$140.60 = x$	<p>Mrs. B: $\frac{2301}{7916} = \frac{x}{600}$</p> $1380600 = 7916x$ $\$174.41 = x$
<p>Check: 284.99 174.41 140.60 $\hline 600.00 \checkmark$</p>	

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12. After opening an ancient bottle you find on the beach, a Djinni appears. In payment for his freedom, he gives you a choice of either 50,000 gold coins or one magical gold coin. The magic coin will turn into two gold coins on the first day. The two coins will turn into four coins total at the end of two days. By the end of the third day there will be eight gold coins total. The Djinni explains that the magic coins will continue this pattern of doubling each day for one moon cycle, 28 days. Which prize do you choose?

When you have made your choice, answer these questions:

- The number of coins on the third day will be $2 \times 2 \times 2$. Can you write another expression using exponents for the number of coins there will be on the third day? 2^3
- Write an expression for the number of coins there will be on the 28th day. Is this more or less than a million coins? $2^{28} = 268,435,456$

more!

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13. Evaluate the following numerical expressions.

- $2(5+(3)(2)+4)$ 30
- $2((5+3)(2+4))$ 96
- $2(5+3(2+4))$ 46

Can the parentheses in any of these expressions be removed without changing the value the expression?

Yes!

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14. Some of the students at Kahlo High School like to ride their bikes to and from school. They always ride unless it rains. Let d be the distance in miles from a student's home to the school. Write two different expressions that represent how far a student travels by bike in a four-week period if there is one rainy day each week.

days to school to home
 $4(d + d)$

days $\rightarrow 4(2d)$ ← distance doubled

$8d$

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15. Which of the following expressions are equivalent? Why? If an expression has no match, write 2 equivalent expressions to match it.

- $2(x+4)$
- $8+2x$
- $2x+4$
- $3(x+4)-(4+x)$ ← $3x+12-4-x$
 $2x+8$
- $x+4$

c) $2x+4$
 $2(x+a)$
 $4+2x$
 $2(2+x)$

e) $x+4$
 $4+x$
 $2(x+4)-(4+x)$

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half of the <u>difference</u> of four times a number and eight	a third of the <u>difference</u> of eighteen and six times a number
$\frac{1}{2}(4x - 8)$	$\frac{1}{3}(18 - 6x)$
$2x - 4$	$6 - 2x$
three multiplied by the <u>result of three subtracted from ten times a number</u>	the difference of a number and seven
$3(10x - 3)$	$x - 7$
six subtracted from the <u>opposite of the sum of three times a number and five</u>	the difference of seven times a number and one
$-(3x + 5) - 6$	$7x - 1$
$-3x - 11$	

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the <u>difference</u> of <u>eight times a number</u> and <u>four times the same number</u>	<u>eight more</u> than <u>three times the sum of a number and one</u>
$8x - 4x$	$3(x + 1) + 8$
$4x$	$3x + 11$
<u>two times a number plus four</u>	<u>add ten to three times a number subtracted from one</u>
$2x + 4$	$(1 - 3x) + 10$
	$11 - 3x$ or $-3x + 11$
the difference of three times a number and eleven	half the sum of double a number and fourteen
$3x - 11$	$2x + 14$

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<u>subtract ten from a number and multiply the result by three</u>	the difference of twice a number and six
$3(x - 10)$	$2x - 6$
$3x - 30$	
<u>seven times a number subtracted from the same number</u>	the difference of four times a number and eight times the same number
$x - 7x$	$4x - 8x$
$-6x$	$-4x$

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