PEMDAS

Try It **Evaluate the expression. Write fractions in simplest form.**

1. $(2.3 - 1.7^2) \times 2$

$(2.3-2.89)\cdot 2$

$-0.59 \cdot 2$

-1.18

2. $\frac{5}{6} - \frac{3}{8} \div \frac{1}{2}$

$\frac{5}{6} - \frac{3}{4}$

$\frac{1}{12}$

3. $\left(3\frac{1}{2} \cdot \frac{1}{4} \div \frac{3}{2}\right)^2$

$\frac{7}{8} \div \frac{3}{2}$

$\left(\frac{7}{12}\right)^2$ $\frac{7}{12} \cdot \frac{7}{12} = \frac{49}{144}$

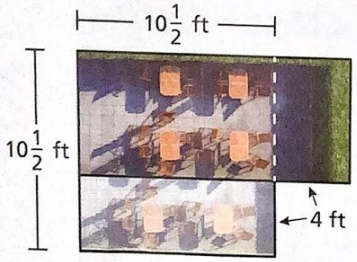
4. $0.5^2 + |0.7 \div (-0.5)|$

$0.25 + 1.4$

1.65

Example 2 B.E.S.T. Test Prep: Using Order of Operations

Outdoor seating at a restaurant is extended by 4 feet on one side and reduced by 4 feet on another side, as shown. Find the change in the area (in square feet) represented by the expression $\left(10\frac{1}{2} + 4\right) \cdot \left(10\frac{1}{2} - 4\right) - \left(10\frac{1}{2}\right)^2$.



Ⓐ $-1504\frac{3}{8}$ ft^2

Ⓑ -16 ft^2

Ⓒ 16 ft^2

Ⓓ 26 ft^2

$\left(10\frac{1}{2} + 4\right) \cdot \left(10\frac{1}{2} - 4\right) - \left(10\frac{1}{2}\right)^2 = 14\frac{1}{2} \cdot 6\frac{1}{2} - \left(10\frac{1}{2}\right)^2$ Perform operations in parentheses.

$= 14\frac{1}{2} \cdot 6\frac{1}{2} - 110\frac{1}{4}$ Evaluate power.

$= 94\frac{1}{4} - 110\frac{1}{4}$ Multiply $14\frac{1}{2}$ and $6\frac{1}{2}$.

$= -16$ Subtract.

▶ The correct answer is Ⓑ.

6 MTR ASSESS REASONABLENESS

Explain why a negative answer is reasonable in this context.

GO DIGITAL

Try It

5. **WHAT IF?** The original length and width are both increased by $2\frac{1}{2}$ feet. Find and interpret the change in the area (in square feet) represented by the expression $\left(10\frac{1}{2}+2\frac{1}{2}\right)^2-\left(10\frac{1}{2}\right)^2$.

In-Class Practice

1 I don't understand yet. 2 I can do it with help. 3 I can do it on my own. 4 I can teach someone else.

USING PROPERTIES OF OPERATIONS Evaluate the expression. Write fractions in simplest form.

6. $-4.8 \div \left|2\frac{1}{5}+\left(-3\frac{7}{10}\right)\right|$

$-4.8 \div |-1\frac{1}{2}|$

$-4.8 \div 1\frac{1}{2}$

-3.2

7. $-10.375+2.5^3-7.5$

$-10.375+15.625-7.5$

-2.25

4 MTR

8. **WHICH ONE DOESN'T BELONG?** Which expression does *not* belong with the other three? Explain your reasoning.

$\frac{3}{4}-\left(\frac{1}{2}\right)^2 \cdot \frac{2}{3}$

$\left[\frac{3}{4}-\left(\frac{1}{2}\right)^2\right] \cdot \frac{2}{3}$

$\frac{3}{4}-\left[\left(\frac{1}{2}\right)^2 \cdot \frac{2}{3}\right]$

$\frac{3}{4}-\frac{2}{3} \cdot \left(\frac{1}{2}\right)^2$

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9. A rectangular splash pad has a width of $33\frac{1}{3}$ feet and an area of 1850 square feet. How much greater is the length than the width?

$A = b \cdot h$ or $w \cdot \ell$

$1850 = 33\frac{1}{3} \cdot \ell$

$\ell = 55\frac{1}{2}$

$55\frac{1}{2} - 33\frac{1}{3} = 22\frac{1}{6}$

Day	Distance (miles)
Monday	1.25
Tuesday	3
Wednesday	1.75
Thursday	1.5

10. The table shows the distances that you ride a bicycle each day for four days. How far should you ride the bicycle on Friday so that you ride an average of 1.75 miles each day during the five-day period?