

# Grade 7 Fraction (Pre-algebra)

Add

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

$$\frac{1}{10} + \frac{3}{5} =$$

Subtract

$$\frac{9}{10} - \frac{2}{5} =$$

$$\frac{8}{5} - \frac{1}{4} =$$

Add or subtract

$$2\frac{2}{3} + 1\frac{1}{2} =$$

$$3\frac{1}{3} - 1\frac{7}{10} =$$

Order from least to greatest

$$\frac{5}{4}, 1\frac{1}{16}, \frac{3}{6}, 1.1, \frac{5}{8}$$

Write each fraction as a percent

$$\frac{14}{25} =$$

$$\frac{7}{50} =$$

# Grade 7-8 Decimal (Pre-algebra)

## *Decimal*

$$3.57 \times 1000 =$$

$$0.5 \times 0.1 =$$

$$0.6 \times 3 =$$

$$0.2 \times 0.5 =$$

$$23.5 \times 0.4 =$$

$$5.2 \div 100 =$$

$$0.6 \div 10 =$$

$$3 \div 8 =$$

$$4.64 \div 4 =$$

$$6.3 \div 5 =$$

$$0.9 \div 0.3 =$$

$$1.2 \div 20 =$$

$$60 \div 200 =$$

## Repeating decimals

*example:*  $1 \div 9 = 0.111 \dots$  or  $0.\bar{1}$

$$2 \div 3 =$$

$$5 \div 6 =$$

$$1 \div 7 =$$

## Grade 8 Fraction (Pre-algebra)

$$\frac{3}{4} \times 7 =$$

$$\frac{2}{3} \times \frac{2}{5} =$$

$$\left(\frac{3}{4}\right)^2 =$$

$$\frac{10}{11} \times \frac{22}{25} =$$

$$\frac{4}{9} \times \frac{3}{5} =$$

$$\frac{4}{9} \times 1\frac{7}{8} =$$

$$\frac{3}{8} \div \frac{1}{4} =$$

$$2\frac{1}{3} \div 1\frac{5}{9} =$$

$$\frac{2 + \frac{1}{3}}{2 - \frac{1}{3}} =$$

$$\frac{7}{8} \div \left(\frac{1}{4} + \frac{5}{8}\right) =$$

$$\left(2\frac{1}{2}\right)^2 =$$

# Answer Key Pre-Algebra

## Grade 7 Fraction

$$\frac{11}{12}, \frac{7}{10}, \frac{1}{2}, \frac{27}{20}, 4\frac{1}{6}, 1\frac{19}{30}$$

Order from least to greatest

$$\frac{3}{6}, \frac{5}{8}, 1\frac{1}{16}, 1.1, \frac{5}{4}$$

56%, 14%

## Grade 8 Fraction

$$\frac{21}{4}, \frac{4}{15}, \frac{9}{16}, \frac{4}{5}, \frac{4}{15}, \frac{5}{6}, \frac{3}{2}, \frac{3}{2}, \frac{7}{5}, 1, \frac{25}{4}$$

## Grade 7-8 Decimal

3570, 0.05, 1.8, 0.1, 9.4, 0.052, 0.06, 0.375, 1.16, 1.26, 3, 0.06, 0.3,

Repeating decimals

$$0.\bar{6}, 0.8\bar{3}, 0.\overline{142857}$$

## Calculating skill - simplify before multiplying

$$\frac{10}{11} \times \frac{22}{25} = \frac{\cancel{10} \cdot \cancel{22}}{\cancel{11} \cdot \cancel{25}} = \frac{2 \cdot 2}{1 \cdot 5} = \frac{4}{5}$$

### Problem 17 2019 AMC 8

What is the value of the product

$$\left( \frac{1 \cdot 3}{2 \cdot 2} \right) \left( \frac{2 \cdot 4}{3 \cdot 3} \right) \left( \frac{3 \cdot 5}{4 \cdot 4} \right) \cdots \left( \frac{97 \cdot 99}{98 \cdot 98} \right) \left( \frac{98 \cdot 100}{99 \cdot 99} \right) ?$$

- 
- (A)  $\frac{1}{2}$     (B)  $\frac{50}{99}$     (C)  $\frac{9800}{9801}$     (D)  $\frac{100}{99}$     (E) 50

### Problem 2 2018 AMC 8

What is the value of the product

$$\left( 1 + \frac{1}{1} \right) \cdot \left( 1 + \frac{1}{2} \right) \cdot \left( 1 + \frac{1}{3} \right) \cdot \left( 1 + \frac{1}{4} \right) \cdot \left( 1 + \frac{1}{5} \right) \cdot \left( 1 + \frac{1}{6} \right) ?$$

- 
- (A)  $\frac{7}{6}$     (B)  $\frac{4}{3}$     (C)  $\frac{7}{2}$     (D) 7    (E) 8

Answer key  
B, D

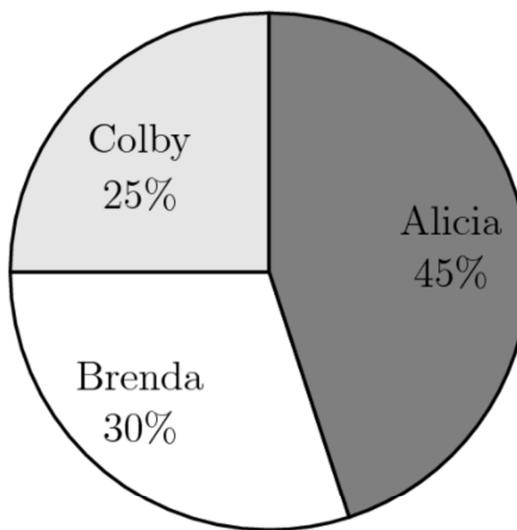
### Problem 5 2020 AMC 8

Three fourths of a pitcher is filled with pineapple juice. The pitcher is emptied by pouring an equal amount of juice into each of 5 cups. What percent of the total capacity of the pitcher did each cup receive?

- (A) 5    (B) 10    (C) 15    (D) 20    (E) 25

### Problem 2 2017 AMC 8

Alicia, Brenda, and Colby were the candidates in a recent election for student president. The pie chart below shows how the votes were distributed among the three candidates. If Brenda received 36 votes, then how many votes were cast all together?



- (A) 70    (B) 84    (C) 100    (D) 106    (E) 120

### Problem 8 2012 AMC 8

A shop advertises everything is "half price in today's sale." In addition, a coupon gives a 20% discount on sale prices. Using the coupon, the price today represents what percentage off the original price?

- (A) 10    (B) 33    (C) 40    (D) 60    (E) 70

## **Problem 8** 2019 AMC 8

Gilda has a bag of marbles. She gives 20% of them to her friend Pedro. Then Gilda gives 10% of what is left to another friend, Ebony. Finally, Gilda gives 25% of what is now left in the bag to her brother Jimmy. What percentage of her original bag of marbles does Gilda have left for herself?

- (A) 20     (B)  $33\frac{1}{3}$      (C) 38     (D) 45     (E) 54
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## **Problem 12** 2013 AMC 8

At the 2013 Winnebago County Fair a vendor is offering a "fair special" on sandals. If you buy one pair of sandals at the regular price of 50, you get a second pair at a 40% discount, and a third pair at half the regular price. Javier took advantage of the "fair special" to buy three pairs of sandals. What percentage of the 150 dollar regular price did he save?

- (A) 25%     (B) 30%     (C) 33%     (D) 40%     (E) 45%
- 

Answer key

C, E, D, E, B

## Problem 1 2020 AMC 8

Luka is making lemonade to sell at a school fundraiser. His recipe requires 4 times as much water as sugar and twice as much sugar as lemon juice. He uses 3 cups of lemon juice. How many cups of water does he need?

- (A) 6    (B) 8    (C) 12    (D) 18    (E) 24
- 

## Problem 6 2017 AMC 8

If the degree measures of the angles of a triangle are in the ratio  $3 : 3 : 4$ , what is the degree measure of the largest angle of the triangle?

- (A) 18    (B) 36    (C) 60    (D) 72    (E) 90
- 

## Problem 12 2018 AMC 8

The clock in Sri's car, which is not accurate, gains time at a constant rate. One day as he begins shopping he notes that his car clock and his watch (which is accurate) both say 12:00 noon. When he is done shopping, his watch says 12:30 and his car clock says 12:35. Later that day, Sri loses his watch. He looks at his car clock and it says 7:00. What is the actual time?

- (A) 5 : 50    (B) 6 : 00    (C) 6 : 30    (D) 6 : 55    (E) 8 : 10
- 

Answer key

E, D, B