

Please make a reasonable estimation. You don't need to exactly solve.

- 1) At a recent trip to the movies, parking cost \$2, movie tickets cost \$21.50, popcorn costs \$6.75, and drinks cost \$4.90. Approximately what was the total expenditure?

$$2 + 21.50 + 6.75 + 4.90$$

↓ ↓ ↓ ↓

$$\underline{2} \quad \underline{21} \quad \underline{7} \quad \underline{5}$$

(rounded down, because other #'s were rounded up. To create balance.)

$$2 + 21 + 7 + 5 \rightarrow 1) \approx \$35$$

- 2) Suppose I need 7 bundles of hardwood flooring, and each bundle costs \$39.90. Approximately how much will I be spending?

\$39.90 → rounds to \$40

$$\begin{array}{r} \times 7 \\ \$40 \\ \hline \$280 \end{array}$$

2) ≈ \$280

Please evaluate.

- 3) How many times can a jug that holds  $\frac{1}{4}$  of a gallon of water fill a 4-gallon jug?

1 gallon = 4  $\frac{1}{4}$ 's

$\frac{1}{4}$
$\frac{1}{4}$
$\frac{1}{4}$
$\frac{1}{4}$

1 gallon = 4 quarter cups  
2 gallons = 8 quarter cups  
3 gallons = 12 quarter cups  
4 gallons = 16 quarter cups

or  $\frac{4}{\frac{1}{4}} = 4 \cdot \frac{4}{1}$

3) 16 fills

- 4) How many miles will I travel if my speed is 45 mph, and I drive for 5 hours?

45 miles in 1 hour  
90 miles in 2 hours  
⋮  
225 miles in 5 hours

45 mph \* 5 hrs =

4) 225 miles

- 5) Suppose Abbey's car can hold 15 gallons of gas when full. She'll then be able to drive for 300 miles. Please pose a question based on this information only, and then answer it. (more than one answer exists)

Q: "If Abbey can drive 300 miles with 15 gallons, how many miles can she drive with 1 gallon?"

A:  $\frac{300 \text{ miles}}{15 \text{ gallons}} = \frac{20 \text{ miles}}{1 \text{ gallon}}$

Using proportions, 20 miles/gallon

Please complete the table below, by placing a check mark or X to indicate all sets of numbers that apply to the value of each expression.

		I irrational	Q rational	Z integer	W whole	N natural
6)	49		✓	✓	✓	✓
7)	-49		✓	✓		
8)	0.49		✓			
9)	$\sqrt{49}$		✓	✓	✓	✓
10)	$\sqrt{50}$	✓				

Please complete the following.

11)  $11 + 14$

11) 25

12)  $11 - 14$

12) -3

13)  $-11 + 14$

13) 3

14)  $-11 - 14$

14) -25

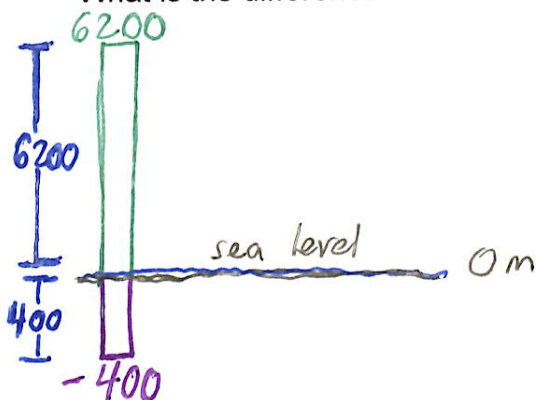
15)  $13 \cdot -5$

15) -65

16)  $-13 \div -1$

16) 13

17) The Dead Sea is the lowest point on earth, measured at 400 meters *below* sea level. Mt. McKinley, the highest peak in the United States, stands at 6200 meters *above* sea level. What is the difference in elevation between the Dead Sea and Mt. McKinley?



17) 6600m





Please multiply or divide. Remember to simplify all answers.

$$24) \frac{10}{9} \cdot \frac{18}{25} = \frac{4}{5}$$

$$24) \underline{\frac{4}{5}}$$

$$25) \left(-2\frac{1}{3}\right) \left(1\frac{2}{7}\right) = -\frac{8}{3} \cdot \frac{9}{7} = -\frac{3}{1} = -3$$

$$25) \underline{-3}$$

(improper fractions help)

$$26) \frac{6}{1} \div \frac{3}{4}$$

$$2 \cancel{6} \cdot \frac{4}{\cancel{3}} = 8$$

$$26) \underline{8}$$

Please evaluate.

27) What is 30% of 110?

$$\begin{aligned} 10\% &= 11 \\ 20\% &= 22 \\ 30\% &= 33 \end{aligned}$$

$$27) \underline{33}$$

28) 14 is what percent of 40?

compare 14 to 40

$$\frac{14}{40} \div 2 = \frac{7}{20} \cdot \frac{5}{5} = \frac{35}{100} = 35\%$$

[-OR-]

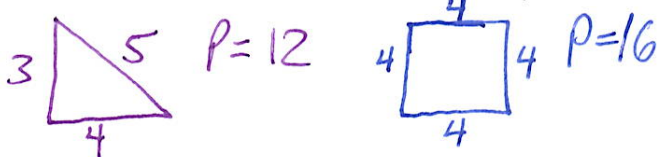
$$\frac{14}{40} = \frac{x}{100}$$

cross multiply

$$35\%$$

$$\begin{aligned} 20x &= 700 \\ x &= 35 \end{aligned}$$

29) Which *perimeter* is greater: a triangle with sides 3, 4, 5 OR a square having side = 4? What is the difference in their perimeters?



29) square's perimeter, by 4 more

30) What is the circumference of a circle if the radius = 10 in.? (Please leave your answer in terms of  $\pi$ .)



$$\begin{aligned} r &= 10 \text{ in} \\ D &= 20 \text{ in} \\ C &= \pi D \\ C &= \pi \cdot 20 \\ C &= 20\pi \text{ in} \end{aligned}$$

$$30) \underline{20\pi \text{ in.}}$$