

Decimals, Percents and Proportions: Chapter Test 1

1. Which of the numbers below is equivalent to 15.099
 - a. 15.0099
 - b. 150.099
 - c. 15.0990
 - d. 105.099
2. If 453.634 is divided by 100, how will the decimal point move?
 - a. It will move one place to the right.
 - b. It will move 2 places to the right
 - c. It will move 2 places to the left
 - d. It will move one place to the left
3. Which decimal number below is less than 45.19?
 - a. 45.179
 - b. 45.291
 - c. 45.1911
 - d. 45.2
4. The dollar closed at \$0.568 today compared to the British pound. That's four one hundredths of a cent more than yesterday. What was the value of the dollar yesterday?
 $0.568 - 0.04 = 0.528$
5. Petra read 0.3 of her Ms. Brown's biology article.
Dana read 40% of the same article.
Jimmy read $\frac{1}{5}$ of the same article.
Who read the most of her article?
If there were 20 pages in this article, how many pages did each student have left to read?
6.
 - a. Write the following numbers in standard form (digits).
 - i. $6 \times 10^3 + 4 \times 10^2 + 8 \times \frac{1}{10^2} + 5 \times \frac{1}{10^3} = 6400.085$
 - ii. $2000 + 4 + 0.5 + 0.002 = 2004.502$
 - iii. $2 \times \frac{1}{10^3} = 0.002$
 - b. Write the following numbers in written form (in words).
 - i. $300.01 = \text{Three hundred and one hundredth}$
 - ii. $2.345 = \text{Two and three hundred forty five thousandths}$
 - iii. $0.3 = \text{Three tenths}$

⑤

Petra:

$$0.3 \text{ of } 20 = 0.3 \times 20 \\ = 6$$

$$20 - 6 = 14 \text{ pages}$$

Petra has 14 pages left to read.

Dora:

$$40\% \text{ of } 20$$

$$\frac{40}{100} = \frac{x}{20}$$

$$(40)(20) = (100)(x)$$

$$800 = 100x$$

$$\frac{800}{100} = \frac{100x}{100}$$

$$8 = x$$

$$20 - 8 = 12 \quad \text{Dora has 12 pages left.}$$

$$\text{Jimmy } \frac{1}{5} \text{ of } 20$$

$$\frac{1}{5} \times 20 = 4$$

$$20 - 4 = 16 \text{ pages left to read.}$$

Dora has read the most.

⑦ 1st decrease:

$$220 - 180 = 40$$

$$\frac{40}{220} \times 100\% = 18.2\%$$

2nd decrease:

$$180 - 90 = 90$$

$$\frac{90}{180} \times 100\% = 50\%$$

The 2nd % decrease was larger.

⑧

$$95 - 66.50 = 28.5$$

$$\frac{28.5}{95} \times 100 = 30\%$$

⑨

Year #1

$$\frac{4}{100} = \frac{x}{570} \Rightarrow \frac{(4)(570)}{100} = \frac{100x}{100}$$
$$22.8 = x$$

$$570 + 22.80 = \$592.80$$

Year #2

$$\frac{4}{100} = \frac{x}{592.8}$$

$$(4)(592.8) = (100)(x)$$

$$\frac{2371.2}{100} = \frac{100x}{100} \Rightarrow x = 23.71$$

$$592.80 + 23.71 = \$616.51$$

Year #3

$$\frac{4}{100} = \frac{x}{616.51}$$

$$(4)(616.51) = (100)(x)$$

$$\frac{2466.048}{100} = \frac{100x}{100}$$

$$24.66 = x$$

$$\text{Total: } 24.66 + 616.51 = \$641.17$$

7. The price of an ipod decreased from \$220 to \$150. Later, the price decreased again from \$150 to \$90. Which of the two percentage decreases was larger?
8. A 5 gallon can of paint was on special from 95\$ to \$66.50. What was the price discount as a percent?
9. Perry kept \$570 in a bank account which paid interest of 4% a year. If he keeps his money there for 3 years, how much interest will he earn in total after the three years?
10. Complete the table given below:

Reduced fraction	decimal	percent	Ratio
$\frac{4}{5}$	0.8	80%	4:5
$\frac{1}{100}$	0.01	1%	1:100
$\frac{5}{4} = 1\frac{1}{4}$	1.25	125%	5:4
$\frac{2}{15}$	0.133	13%	2:15

Extension

11. April used a micrometer to measure the thickness of a piece of paper. The paper measured halfway between 0.74 millimeters and 0.75 millimeters. What is the thickness of the paper?
12. Michelle made 12 of 30 free-kicks with her soccer team this year. Sara made 0.587 of her free-kicks and Chelsea's average was 59%. Of these three players, who was the best free-kick shooter this year?

(11)
$$\frac{0.75 - 0.74}{2}$$

$$= 0.745 \text{ mm}$$

(12) Michelle: $\frac{12}{30} = \frac{x}{100} \Rightarrow \frac{(12 \times 100)}{30} = \frac{(30 \times x)}{30}$

$$40\% = x$$

Sara: $0.587 \times 100 = 58.7\%$

Chelsea: 59%

\therefore Chelsea had the highest %, \therefore she was the best free kicker.

Decimals, Percents and Proportions: Chapter Test 2

- The fraction $\frac{4298}{1000}$ can be represented by which decimal?
 - 4.298
 - 42.98
 - 0.4298
 - 4298.000
- What is the number 124.599 to the nearest hundredth?
 - 100
 - 124.100
 - 120
 - 124.6
- Which decimal has the greatest value?
 - 0.084
 - 0.09
 - 0.1
 - 0.05996
- How much greater is 0.0543 than 0.002? $0.0543 - 0.002 = 0.0523$
- A box contains 100 pencils. If each pencil weighs 3.25 grams, how much does the entire box weigh? $100 \times 3.25 = 325g$
- A hockey team played 55 games. They won 35 games and had no ties. What percent of the games did they lose? Round your answer to the nearest tenth. $(20)(100) = (55)(x)$
 $\text{Losses: } 55 - 35 = 20$ $\frac{20}{55} = \frac{x}{100} \Rightarrow 2000 = 55x$
 $36.4\% = x$
- The price of a painting decreased by 24% to \$300. What was the original price of the painting?
- Simon answered 102 questions correctly on his test. If his grade was 85%, how many questions were on the test?

$$\textcircled{7} \quad \frac{24}{100} = \frac{x - 300}{x}$$

$$(24)(x) = 100x - 3000$$

$$24x - 100x = -3000$$

$$-76x = -3000 \Rightarrow x = 39$$

$$\textcircled{8} \quad \frac{102}{x} = \frac{85}{100}$$

$$(102)(100) = (85)(x)$$

$$\frac{10200}{85} = \frac{85x}{85}$$

$$120 = x$$

9. a. Write the following decimals as mixed fractions

i. 5.23 $5\frac{23}{100}$

ii. 2.1 $2\frac{1}{10}$

iii. 54.212 $54\frac{212}{1000}$

b. Write the following mixed fractions as decimals

i. $3\frac{2}{5}$ 3.4

ii. $6\frac{1}{4}$ 6.25

iii. $10\frac{1}{10} = 10.1$

c. Solve for x

i. $2.5 + x = 10.07$

ii. $x - 2.1 = 4$

10. Express the following ratios in the same unit and reduce your resulting ratio. *Hint: Always convert into smaller unit (change dollars to quarters).*

\$2 to 12 quarters $8:12$

4 weeks to 18 days $28:18$

4 hours to 100 minutes $240:100$

3 dimes to 25 cents $30:25$

Extension

11. When making a purchase, a man gave the sales clerk two \$20 bills at the cash. What was his change if he bought a t-shirt for \$12.49 and gloves for \$10.89? Assume that the taxes were included in the price.
12. Rob purchased movie tickets for \$48.84. If he paid for four people, how much did each ticket cost?

$$\text{q.c. ① } \begin{array}{r} 2.5 + x = 10.07 \\ -2.5 \quad -2.5 \end{array}$$

$$x = 7.57$$

$$\text{② } \begin{array}{r} x - 2.1 = 4 \\ +2.1 \quad +2.1 \end{array}$$

$$x = 6.1$$

$$\text{⑪ } 2 \text{ \$20 bills} = \$40$$

$$40 - 12.49 - 10.89 = 16.62$$

His change received was \$16.62

$$\text{⑫ } 48.84 \div 4 = \$12.21$$

Each ticket was \$12.21