Name:_____ Date:_____

Math 8/9H Section 3.2 Converting Fractions, Decimals and Percentages

1. Write each of the following fractions in decimal form and also a percentage:

a) $\frac{5}{3}$	b) $\frac{7}{9}$	c) $\frac{6}{11}$	d) $\frac{8}{12}$
e) $\frac{13}{10}$	f) $\frac{9}{4}$	g) $\frac{13}{9}$	h) $\frac{23}{99}$
i) $\frac{421}{99}$	j) $\frac{13}{3}$	k) $\frac{23}{111}$	l) $\frac{7}{999}$

2. If a number "n" is multiplied to each of the fractions, what is the percentage increase or decrease?

a) $n\times\frac{5}{6}$	b) $n\times\frac{6}{7}$	c) $n\times\frac{10}{9}$	d) $n\times\frac{7}{4}$

3. Evaluate the following without a calculator and leave your answers as a mixed fraction in simplified form:

a) 0.33×0.11	b) $0.125\div0.\overline{18}$	c) $0.375\times0.\overline{66}$	d) $0.8\overline{33}\times0.75$
e) $0.1\overline{66}\times0.\overline{33}-0.5$	f) $0.6\div0.\overline{2}+0.\overline{18}$	g) $1.25\times0.6+0.75$	h) $0.875\div0.\overline{63}-0.\overline{66}$
i) $0.1\overline{66}+0.5-0.\overline{33}$	j) $2.875\times0.\overline{72}-0.\overline{33}$	k) $0.\overline{33}\div0.02+0.\overline{18}\div0.1$	l) $2.5\times0.03-0.\overline{45}\times0.2$
m) $0.1\div0.01\div0.001\div0.0001$	n) $0.0\overline{66}\times0.6-1.02$	o) $0.0\overline{833}\times1.\overline{33}-0.25$	P) $1.5\times0.1\overline{33}+1.75$
Q) $35\div0.00014$	r) $128\div0.0004$	s) $3.43\div0.014$	t) $72.9\div0.003$

4. Simplify: i) $\frac{4}{3}\times 0.25 \div 2\frac{7}{5}\times \square = 1$ ii) $2\frac{6}{7}\times 1\frac{6}{15}\div 1\frac{7}{9}\times \square = 1$

5. Convert each of the following decimal expansions into a fraction in lowest terms:

a) $0.1\overline{55555}$	b) $0.123\overline{5252}$	c) $0.23\overline{8888}$
d) $0.41\overline{231231}$	e) $0.512\overline{050505}$	f) $3.14\overline{7979}$

6. Given the first 11 digits in the decimal expansion of 2/19, what are the remaining digits of the repeating pattern? $\frac{2}{19} = 0.10526315789.....$

7. Use the pattern above to find the 100th digit in the decimal expansion of 3/19.

8. When 100 is multiplied to a fraction $\frac{a}{b}$, it increases by $25.\overline{33}\%$. What is the fraction $\frac{a}{b}$ in lowest terms?

9. When a number "n" is multiplied by a fraction $\frac{c}{d}$, the value of "n" is decreased by $14.\overline{22}\%$. What is the fraction $\frac{c}{d}$ in lowest terms?

10. If $\frac{5}{6}$ of a number is 60, then what is $\frac{10}{3}$ of the original number?

11. A coat with an original price of $85.50 is reduced by 10%. What is the new selling price?

12. James earns $25,000 a year and Ed earns 6% more than James. What is the amount that Ed earns, in dollars?

13. In a class of 30 students, 40% wear glasses. Three of those wearing glasses are left-handed. Of those wearing glasses, what percent are left handed?

14. Mr. Jones sold two pipes at $1.20 each. Based on the cost, the profit on one was 20% and the loss on the other was 20%. One the sale of the pipes, how much did he gain or lose?

15. A book is on sale and is reduced by 15%. In order to restore the price to its original cost, what is the percentage by which the sale price must be increased?

16. If “x” is 3% of “y” and “y” is 7% of w, find “x” in terms of “w”.

17. IN a large school, 25% of all students are in grade 8. Amongst all grade 8, 15% of the students are in Math Honours. Amongst those in Math 8 Honours, 45% are girls. Amongst these girls, 5% wear glasses. Amongst these that wear glasses, 25% have names that begin with the letter “A” and their name area Anna and Amy. How many students in are in the school?

18. In a school, 30 boys and 20 girls entered a math competition. Certificates were awarded to 10% of the boys and 20% of the girls. Of the students who participated, what percentage received certificates?

19. In a recent survey, 40% of the cars contained two or more people. Of those cars containing only one person, 25% contained a male. Determine the percentage of all cars which contained exactly one female and no male.

20. You are given one hour to complete a contest. What is the fraction of the hour remaining for you to complete the contest after thirty-five minutes have passed?

21. A young ruler wanted to reward his servants by giving them his horses. First he gave 50% of his horses to his soldiers to train for battle. Next he gave 25% of his horses to the male servants and $\frac{1}{8}$ to the female servants. Afterwards, he gave $\frac{1}{12}$ of the horses to his favorite butler , $\frac{1}{36}$ to the city mayor, and then rode away on his horse to another town. How many horses did the young ruler have in the beginning?

22. James took 30% of his dad's money to go shopping. He spent $\frac{7}{15}$ of the money and bought a really nice pair of basketball shoes and then deposited the remaining amount in his bank. If James' dad now has $810 more than him, how much money does each person have?

23. Let x = 0.7181818181…., where the digits '18' repeat. When "x" is expressed as a fraction in lowest terms, the denominator will exceed the numerator by how much?

(a) 18 (b) 31 (c) 93 (d) 141 (e) 279

24. How many integers "n" will satisfy the inequality? $\frac{3}{7} < \frac{n}{14} < \frac{2}{3}$

(A) 0 (B) 2 (C) 3 (D) 4 (E) 5