

3 Year 5 Term 2 Week 3 Homework

3.1 Topic 1 — Fractions and Decimals (Mixed Operations)

1. Simplify the following Fractions:

(a) $\frac{3}{4} - \frac{2}{4} \times \frac{4}{5} =$ _____

(b) $\frac{1}{3} + \frac{2}{3} \times \frac{3}{8} =$ _____

(c) $\frac{2}{3} \times \frac{3}{8} \div \frac{1}{4} =$ _____

(d) $(\frac{1}{4} + \frac{2}{3}) \times \frac{4}{5} - \frac{1}{10} =$ _____

(e) $1\frac{1}{3} - \frac{5}{6} \times \frac{2}{5} =$ _____

(f) $\frac{\frac{3}{4} - \frac{1}{2}}{\frac{3}{4} + \frac{1}{2}} =$ _____

2. Problem Involving Fractions:

(a) A basket of fruit contains 7 bananas, 5 apples and 6 oranges. What fraction of the fruit in the basket is bananas?

(b) David's little brother has lost 4 of his 24 "baby teeth". What fraction remains?

(c) Jane takes three quarters of a minute to swim 50 metres. How long would it take her to swim 200 metres at the same speed?

3. Problem Involving Decimals:

(a) Find the difference between 12.4 and 3.07.

(b) Find the average of 12.3, 14.5 10.04 and 11.12.

(c) The product of two numbers is 13.02. If one of the number is 12.4, find the other number.

3.2 Topic 2 — Percentages

1. Jennifer bought a dress at a discount of 55%. If she paid \$18, how much did the dress actually cost?

2. Find the sum of 35% of \$120 and 65% of \$180.

3. Find the difference between 12% of \$218 and 24% of \$ 56.

4. A man saves 25% of his salary each fortnight. At the end of the year, he has saved \$25,500. How much does he earn each week? (round off to the nearest dollar if necessary)

5. During the first half hour the mass of a block of ice decreases by 10% due to melting. During the next hour, the mass decrease by another 10%. The mass is then 88 kg. Find the original mass of the ice. (Answer to the nearest kg if necessary)

6. At school we have 3 lessons of maths each week. Each week a total of 20 lessons and each lesson is 45 minutes long. What percentage of the time do we spend on maths?

3.3 Topic 3 — Money Problems

1. A house is to be paid off by 15 years. The monthly instalment is \$1,800.00. How much is still to be paid after 5 years?

2. After Peter has given \$12 to Steven, they have equal sums of money. What is the difference between their original sums of money?

3. 5 kg of flour cost \$12.50 and 3 kg of sugar cost \$3.60. Find the total cost of 3 kg of flour and 5 kg of sugar.

4. The average cost of 4 pencils is \$1.20. If one of them costs \$1.50, what is the average cost of the other pencils?

5. A bonus of \$8,712 is shared equally among 12 efficient workers in a company. How much money do 7 workers receive?

3.4 Topic 4 — Factors, Multiples and Primes

1. **Factor:** Any whole number that divides exactly into another number is called a **Factor**

(a) How many factors are there in number 48?

(b) How many factors are there in number 108?

(c) How many factors are there in number 200?

2. **Common Factor:** When two or more numbers have the same factor, that factor is called a **Common Factor**

(a) Find the common factors of 18 and 24.

(b) Find all the common factors of 12 and 16.

(c) Find all the common factors of 9, 18 and 24.

3. **Prime Number:** A prime number has only two factors, one and the number itself.

(a) List the prime numbers less than 20.

(b) Find the sum of all prime numbers less than 25.

4. **Composite Number:** A Composite number is any number that is not prime.

(a) Find the sum of all the composite numbers less than 20.

(b) Find the ratio of the prime numbers and composite numbers which are less than 20.

3.5 Problem Solving (Basic Equations)

1. One step equations:

(a) $X + 4 = 19$ _____

(b) $X + \frac{1}{4} = \frac{1}{3}$ _____

(c) $X \div 4 = 16$ _____

(d) $3X = -9$ _____

(e) $\frac{X}{2} = 3\frac{1}{2}$ _____

2. Two step equations:

(a) $2X - 1 = 9$ _____

(b) $5X + 2 = 21$ _____

(c) $3 - 2X = -15$ _____

(d) $4X = 5X - 8$ _____

(e) $X - 12 = 5X - 4$ _____

3. Word problems leading to equations:

(a) 5 more than a number is equal to 18. Find the number.

(b) If 9 is subtracted from 2 times a certain number the result is 23. Find the number.

(c) The sum of three consecutive numbers is 45. Find the largest number.

(d) If you subtract 15 from twice a certain number the answer is 33. Find the number.

(e) One third of a number decreased by 5 is 13. Find the number.

(f) Two fifths of a number increased by 12 is 16. Find the number.

3.6 Test Paper 3

3.6.1 Part A — 10 Multiple Choice Questions (1 mark each)

- 65% is the same as how many parts out of 20?
(A) 9 (B) 11 (C) 13 (D) 15
- When you round off \$129.99 to nearest dollar you get
(A) \$129 (B) \$130 (C) \$131 (D) \$120
- I was meant to divide by 4 but instead I multiplied by 3. My answer was 48. The correct answer should have been:
(A) 4 (B) 8 (C) 6 (D) 12
- Adam is 6 years older than Bob and Bob is one year older than Carol. If Carol will be 12 next year, how old is Adam now?
(A) 14 (B) 15 (C) 19 (D) 18
- We bought 6.6 m of timber but only needed a fifth of it. How much remained?
(A) 1.32 m (B) 5.28 m (C) 4.28 m (D) 3.32 m
- What is the value of $3 + 4 \times (3 + 4)$?
(A) 24 (B) 35 (C) 31 (D) 27
- What number must be placed in the box? $45\% = \frac{63}{\boxed{?}}$
(A) 100 (B) 124 (C) 135 (D) 140
- Which of the following simplifies to give the smallest number?
(A) $2.6 + 0.4$ (B) $2.6 \div 0.4$ (C) $2.6 - 0.4$ (D) 2.6×0.4
- What value of the 5 in the number 123.45?
(A) 5 units (B) 5 tens (C) 5 hundredths (D) 5 tenths
- In the car we time ourselves. It took us 12 minutes to cover 18 km. At this rate, how long would it take to travel 135 km?
(A) 1 hour 30 min (B) 1 hour 40 min (C) 1 hour 24 min (D) 1 hour 48 min

3.6.2 Part B — 10 Average Questions (2 marks each)

1. Simplify $\frac{5^2+5^2+5^2}{5+5+5}$.

2. What number must be placed in the boxes so that the number sentence is true?

$$3 \times (\boxed{?} - 1) + 2 \times \boxed{?} = 42$$

3. 16 bunches of bananas are bought at the fruit market for \$72. How many bunches could be bought with \$108?

4. I spent $\frac{1}{3}$ my money on paper and $\frac{1}{2}$ of what remained on pens. That left me with \$20.00. How much did I start with?

5. We unloaded 28% of the boxes. That left 144 boxes. How many boxes were there originally?

6. The average of 5 numbers is 15. A sixth number is added to the first five numbers. The new average of the six numbers is 21. What is the sixth number?

7. Find the sum of the largest 3-digit number and the smallest 4-digit number. (no repeat digits)

8. Anna always confuses adding and subtracting. When the teacher says to add she subtracts and when the teacher says to subtract she adds. When the teacher asked Anna to subtract 122 from a given number, Anna wrote her answer of 344. What should be the correct answer?

9. A drink is made up of 2 parts of cordial and 11 parts of water. How much cordial would be needed in making 65 L of the drink?

10. A girl walks 50 m in a minute. At the same rate, how long would it take her to walk two kilometres?

3.6.3 Part C — 10 Extension Questions (3 marks each)

1. The average mass of four parcels is 2.5 kg. If three of the parcels are of mass 1.3 kg, 2.9 kg and 3.7 kg respectively, what is the fourth mass?

2. The number of students increased by 20% during 2004 but then, during 2005 the number of students decreased by 10% to 432. Find the number of students at the start of 2005.

3. The symbol $6!$ means $6 \times 5 \times 4 \times 3 \times 2 \times 1$. Find the value of $\frac{5!}{4!} + \frac{6!}{3!}$

4. Find the value of $\frac{7!+5!}{6!} =$ _____

5. A square has a area of 64 cm^2 . When looked at under a magnifying glass the perimeter appears to have increased by 75%. Find the size of the new square appears.

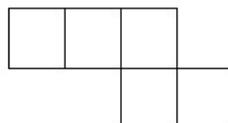
6. Jennifer saved \$46 per month for the first 4 months of the year and \$64 for each the remaining months. What was her average monthly savings?

7. The sum of $\frac{3}{4}$ and $\frac{4}{3}$ is divided by $\frac{3}{4}$.

8. By increasing each side of a square, by the same amount, the area of the square increase by 44%. Find the percentage increase in the side of the square.

9. Find the value of $\sqrt{51^2 - 24^2} =$ _____

10. The area of a square is numerically equal to its perimeter. If 5 of these squares are joined together as shown in the diagram, what would be its perimeter?



3.6.4 Part D — 8 Challenging Questions (5 marks each)

1. The ratio of the number of adults to the number of children in an auditorium was 12:7. If there were 55 fewer children than adults, how many people were there at the auditorium?

2. The total weight of 5 mangoes and 2 pineapples was 11.7 kg. Each pineapple was 2 times as heavy as each mango. What is the total weight of 4 pineapples and 6 mangoes?

3. Linda has $\frac{2}{9}$ as many hair-clips as Jessica. If Linda has 42 hair-clips, how many hair-clips does Jessica have?

4. Jane saves 40% of her pocket-money every week. If she spends \$60 in 4 weeks, how much is her pocket-money per week?

5. In the equation below, A and B represent natural numbers. What values of A and B will make the equation true?

$$\frac{A}{3} + \frac{B}{4} = \frac{11}{12}$$

6. What simple fraction is equal to the complex fraction shown below?

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

7. Tammy has $1\frac{2}{5}$ as many stamps as Kelly. If Kelly has 60 stamps, how many more stamps does Tammy have?

8. Triangle ABC has its vertices A, B and C on the sides of a rectangle 6 units by 5 units as shown below. What is the area of triangle ABC in square units?

