Contents

Sample

© United Prime Educational Publishing (HK) Limited 2023
All rights reserved; no part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of the Publisher.

Sample

Additional Resources:

© United Prime Educational Publishing (HK) Limited 2023
All rights reserved; no part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of the Publisher.

11 Addition of fractions with the same denominator

Common Error

1 1-minute Revision

Concept Review

Addition of fraction with the same denominator

- Add the numerators. The denominator remains the same.

  e.g. $\frac{1}{5}+\frac{2}{5}=\frac{1+2}{5}$

  $=\frac{3}{5}$

- Add the whole number parts and the fractions parts respectively first and then find the sum of the two parts.

  e.g. $2\frac{1}{7}+3\frac{2}{7}=(2+3)+(\frac{1}{7}+\frac{2}{7})$

  $=5+\frac{3}{7}$

  $=5\frac{3}{7}$

2 Basic Practice

Do the calculations. Reduce the answer to its simplest form.

Quick Reminder
4B Reducing fractions
If a fraction cannot be further reduced, it is in its simplest form.

Sample

1. $\frac{2}{7}+\frac{6}{7}$

   = ____________________

   = ____________________

2. $\frac{5}{6}+2\frac{1}{6}$

   = ____________________

   = ____________________

3. $3\frac{11}{18}+\frac{13}{18}$

   = ____________________

   = ____________________

   = ____________________

4. $1\frac{9}{20}+\frac{7}{20}+4\frac{19}{20}$

   = ____________________

   = ____________________

   = ____________________

5. $6\frac{7}{15}+\frac{14}{15}$

   = __________

6. $\frac{5}{24}+8+1\frac{17}{24}$

   = __________

Fill in the blanks. Reduce the answer to the simplest form.

7. Boaz ate $\frac{4}{9}$ of a watermelon and Jay ate $\frac{2}{9}$ of it.

   They ate __________ of the watermelon in total.

8. Candy sold $4\frac{5}{12}$ stacks of lottery tickets, and she sold $1\frac{11}{12}$ stacks fewer than Dave did. They sold __________stacks of lottery tickets in total.

© United Prime Educational Publishing (HK) Limited 2023
All rights reserved; no part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of the Publisher.

Date | Time used minutes | Marks

Solve the following problems. Reduce the answer to its simplest form. (Show your working)

9. An ice cream is $\$7\frac{3}{10}$ cheaper than a piece of cheesecake. How much does a piece of cheesecake cost?

10. A restaurant used $5\frac{7}{8}$ kg of beef to make beef balls. $3\frac{1}{8}$ kg of beef is left after making the beef balls. How many kilograms of beef were there in the restaurant originally?

Sample

3 Advanced Practice

Blacken the ◯ next to the correct answer.

Level-up Question

11. Janice cut $2\frac{3}{10}$ m of ribbon from a roll of ribbon and gave it to Annie. The ribbon that Janice cut was $\frac{9}{10}$ m shorter than the remaining ribbon. What was the original length of the roll of ribbon?

◯ A. $5\frac{1}{2}$ m ◯ B. $4\frac{3}{5}$ m ◯ C. $4\frac{1}{10}$ m ◯ D. $2\frac{1}{5}$ m

Public Exam Question

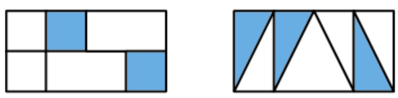
12. If $\frac{X}{6} + \frac{Y}{6} = 1$, then $X + Y = ?$

Useful Tips
In what situation is the value of a fraction equals 1?

◯ A. 1 ◯ B. 3 ◯ C. 6 ◯ D. 12

Public Exam Question

13. If each  stands for 1, what value does the sum of the coloured part shown on the right represent?



◯ A. $\frac{5}{6}$ ◯ B. $\frac{5}{8}$ ◯ C. $\frac{5}{13}$ ◯ D. $\frac{5}{16}$

© United Prime Educational Publishing (HK) Limited 2023
All rights reserved; no part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of the Publisher.

Assessment 2

Time allowed: 30 min

Name: ______________ Class: __________ (　　) Date: ____________

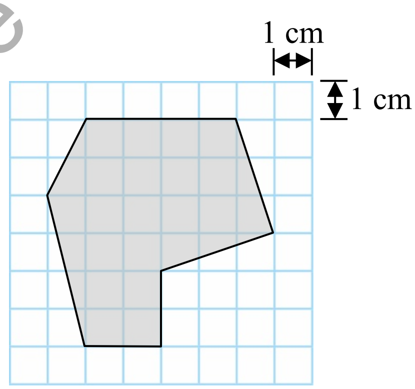
Assessment points		Questions	Marks
Areas	Understanding of the concept of areas, measuring the areas of rectangles, squares and 2-D shapes	1 – 7	/ 28
Decimals	Understanding of decimals, addition of decimals, subtraction of decimals, and mixed operations of addition and subtraction of decimals	8 – 18	/ 38
Bar charts	Read and construct bar charts	19 – 20	/ 34
		Total marks:	/ 100

Instructions
- **Multiple choice questions:** Blacken the ◯ next to the correct answer.
- **Questions in which you are asked to 'show your working':** Write your mathematical expressions, answers, and statements / conclusions.
- **Other types of questions:** Answer as required in the spaces provided.

Marks

1. In the figure on the right, the side length of each small square is 1 cm. The area of the shaded part is ________ cm^2. 4M

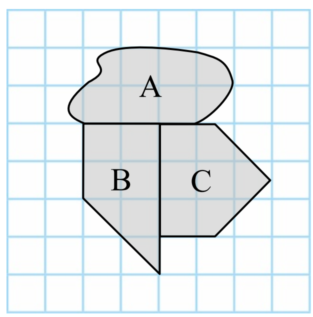
Sample



2. Compare the areas of the 2-D shapes on the right. Arrange them from the smallest to the largest. 4M

Fill in the blanks with the correct letters.

Answer: __________, __________, __________
(smallest) (largest)



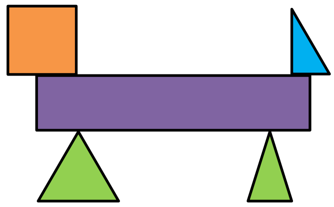
3. The perimeter of a square is 56 m. The area of the square is ________ m^2. 4M

4. The length of a rectangle is 1 m. Its width is 20 cm shorter than half of its length. The area of the rectangle is ________ cm^2. 4M

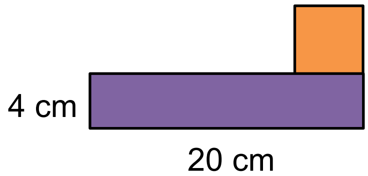
© United Prime Educational Publishing (HK) Limited 2023
All rights reserved; no part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of the Publisher.

Cross-topic Exercise

Complete the questions below.



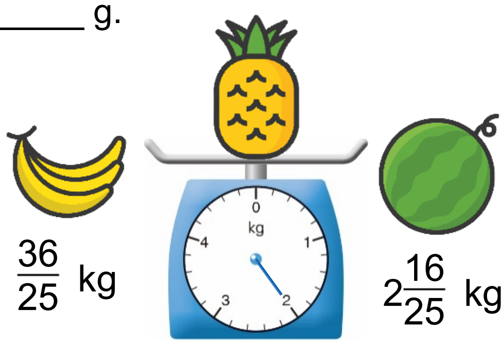
1. Kelly uses some shapes to make the figure on the right.
   - a. The figure is made up of _________ quadrilaterals and _________ triangles.
   - b. Kelly uses the squares and rectangles above to make the figure on the right. If the length of the rectangle is 4 times the side length of the square, the area of the figure is _________ cm^2.



   - c. The perimeter of the figure in question **b.** is _____________. (Give the answer with a unit.)

2. The weights of the 3 pieces of fruit are shown on the right.
   - a. The pineapple weighs _________ kg, that is _________ g.
   - b. Change $\frac{36}{25}$ to a mixed number: _________

     Change $2\frac{16}{25}$ to an improper fraction: _________

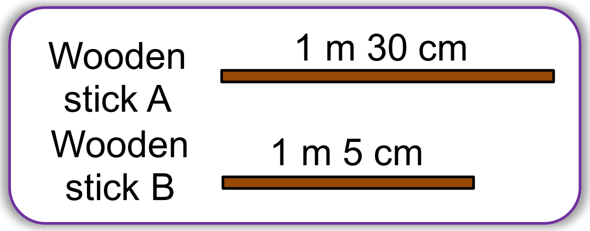


   - c. Arrange the weights of the 3 pieces of fruit from the lightest to the heaviest.

     _________ < _________ < _________ (Write the numbers.)
   - d. The weight difference between the watermelon and the bananas is _______ kg.

Sample

3. On the right are 2 wooden sticks.



   - a. Wooden stick A is _________ m long.
     Wooden stick B is _________ m long.
     (Give the answer in decimals.)
   - b. 2 pieces of wooden stick A and 2 pieces of wooden stick B can be used to form a (square / rectangle / rhombus). (Circle the answer)
   - c. What is the perimeter of the figure formed in question **b.**? (Show your working)

© United Prime Educational Publishing (HK) Limited 2023
All rights reserved; no part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of the Publisher.

Revision Notes

Unit 1: Mixed operations (Exercises 1- 4)

1. Mixed operations of addition, subtraction and multiplication

- Methods to speed up the calculations

e.g. 1:

$13 \times (5 + 100)$
$= 13 \times 5 + 13 \times 100$
$= 65 + 1300$
$= 1365$

e.g. 2:

$209 \times 21 - 9 \times 21$
$= (209 - 9) \times 21$
$= 200 \times 21$
$= 4200$

2. Mixed operations of addition, subtraction and division

- Do the division first and then do the addition or subtraction.

e.g.

$50 + 27 \div 3$
$= 50 + 9$
$= 59$

- Do the calculation in the brackets first.

e.g.

$23 - (70 - 14) \div 8$
$= 23 - 56 \div 8$
$= 23 - 7$
$= 16$

Sample

3. Mixed operations of multiplication and division

- Do the calculation in order from left to right.

e.g.

$5 \times 18 \div 10$
$= 90 \div 10$
$= 9$

- Do the calculation in the brackets first.

e.g.

$60 \div (3 \times 4) \div 5$
$= 60 \div 12 \div 5$
$= 5 \div 5$
$= 1$

4. Mixed operations

- Do the multiplication or division first, then do the addition or subtraction.
- If there are brackets in an expression, do the calculation in brackets first.
- In brackets, do the multiplication and division first.

e.g.

$19 + 7 \times (20 - 48 \div 6)$
$= 19 + 7 \times (20 - 8)$
$= 19 + 7 \times 12$
$= 19 + 84$
$= 103$

© United Prime Educational Publishing (HK) Limited 2023
All rights reserved; no part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of the Publisher.

9. $6\frac{9}{10} + 7\frac{3}{10}$

$= 13\frac{12}{10}$

$= 14\frac{1}{5}$

A piece of cheesecake costs $\$14\frac{1}{5}$.

10. $5\frac{7}{8} + 3\frac{1}{8}$

$= 8\frac{8}{8}$

$= 9$

There were 9 kg of beef in the restaurant originally.

11. A

[$2\frac{3}{10} + 2\frac{3}{10} + \frac{9}{10} = 4\frac{15}{10} = 5\frac{1}{2}$]

MCQ Explanation

Wrong choice	Reason
B	Wrongly take the result of adding lengths of the ribbon that Janice cut twice as the original length of the ribbon, that is $2\frac{3}{10} + 2\frac{3}{10}$.
C	Wrongly take the result by adding the length of ribbon that Janice cut and the length difference between the ribbon that Janice cut and the remaining ribbon twice as the original length of the ribbon, that is $2\frac{3}{10} + \frac{9}{10} + \frac{9}{10}$.
D	Wrongly take the sum of the two fractions as the answer and did not carry 1 to the whole number part.

12. C

[When the values of the numerator and the denominator are the same, the value of the fraction is 1, that is $\frac{6}{6} = 1$.]

MCQ Explanation

Wrong choice	Reason
A	Misunderstand that the sum of the numerators is 1, the sum of the fraction is 1.
B	Wrongly take the value of X or Y as the answer.
D	Misunderstand that X and Y are both 6, $X + Y = 12$.

13. B

[Divide the large rectangle into equal parts. The large rectangle on the left can be divided into 8 squares of the same size. The large rectangle on the right can be divided into 8 triangles of the same size. The calculation can be written as: $\frac{2}{8} + \frac{3}{8} = \frac{5}{8}$]

MCQ Explanation

Wrong choice	Reason
A	Wrongly take the number of parts of the rectangle on the left as the denominator and take the number of blue-coloured part as the numerator. Then, use $\frac{2}{6} + \frac{3}{6}$ to calculate.
C	Wrongly take the total number of parts of the two large rectangles as the denominator and take the number of blue-coloured part as the numerator. Then, use $\frac{2}{13} + \frac{3}{13}$ to calculate.
D	Wrongly take the total number of equal parts in which the two large rectangles are divided as the denominator and take the number of blue-coloured part as the numerator. Then, use $\frac{2}{16} + \frac{3}{16}$ to calculate.

Sample

12 Subtraction of fractions with the same denominator

1. $\frac{5}{6} - \frac{1}{6}$

$= \frac{4}{6}$

$= \frac{2}{3}$

2. $2\frac{8}{9} - 1\frac{5}{9}$

$= 1\frac{3}{9}$

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

3. $4 - \frac{7}{15}$

$= 3\frac{15}{15} - \frac{7}{15}$

$= 3\frac{8}{15}$

4. $5\frac{6}{7} - \frac{5}{7} - 1\frac{4}{7}$

$= 5\frac{1}{7} - 1\frac{4}{7}$

$= 4\frac{8}{7} - 1\frac{4}{7}$

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

5. $1\frac{2}{3}$

6. 2

7. $1\frac{3}{5}$ [$3\frac{4}{5} - 2\frac{1}{5} = 1\frac{3}{5}$]

© United Prime Educational Publishing (HK) Limited 2023
All rights reserved; no part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of the Publisher.

8. $\frac{1}{3}$ [$\frac{11}{12} - \frac{7}{12} = \frac{4}{12} = \frac{1}{3}$]

9. $1\frac{3}{10} - \frac{9}{10}$

$= \frac{4}{10}$

$= \frac{2}{5}$

The difference in length between the white rope and the red rope is $\frac{2}{5}$ m.

10. $1 - \frac{7}{16} - \frac{5}{16}$

$= \frac{4}{16}$

$= \frac{1}{4}$

$\frac{1}{4}$ of the fruit are mangoes.

Common mistake: $\frac{7}{16} - \frac{5}{16} = \frac{1}{8}$ ×

- Misunderstand that the subtraction of the two numbers can get the answer. 1 should be used as all the fruit in the basket. Then subtract the fractions of oranges and peaches.

11. $\frac{5}{8}$

[Use 1 as all the arrows. Subtract the fraction of the arrows that hit the red target. The remainder is the fraction of the arrows that miss the red target. $1 - \frac{3}{8} = \frac{5}{8}$]

12. $\frac{3}{7}$

[Use 1 as all the biscuits. $\frac{5}{14}$ is the fraction that Oscar ate. $1 - \frac{3}{14} - \frac{5}{14} = \frac{6}{14} = \frac{3}{7}$]

Common mistake: $\frac{11}{14}$ ×

- Did not calculate the fraction that Oscar ate.

13. a. $26\frac{1}{2}$

[$16\frac{5}{8} + 9\frac{7}{8} = 25\frac{12}{8} = 26\frac{1}{2}$]

b. $3\frac{1}{2}$

[$26\frac{1}{2} - 23 = 3\frac{1}{2}$]

13 Addition and subtraction of fractions with the same denominator

1. $\frac{6}{7} + \frac{3}{7} - \frac{1}{7}$

$= \frac{8}{7}$

$= 1\frac{1}{7}$

2. $\frac{5}{9} - \frac{4}{9} + \frac{2}{9}$

$= \frac{3}{9}$

$= \frac{1}{3}$

3. $1\frac{2}{15} + 2\frac{8}{15} - \frac{7}{15}$

$= 3\frac{3}{15}$

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

4. $5\frac{13}{20} - 4\frac{7}{20} + 3\frac{9}{20}$

$= 4\frac{15}{20}$

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

5. $6\frac{2}{3}$

6. $\frac{1}{3}$

7. $6\frac{3}{10}$

[$3\frac{9}{10} - 2\frac{3}{10} + 4\frac{7}{10} = 5\frac{13}{10} = 6\frac{3}{10}$]

8. $\frac{11}{12}$

[$1\frac{5}{12} + \frac{1}{12} - \frac{7}{12} = \frac{11}{12}$]

Sample

© United Prime Educational Publishing (HK) Limited 2023
All rights reserved; no part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of the Publisher.