



**BROAD HORIZON**  
— TUITION CENTRE —

# **11+ Tuition – Year 5**

**Week 17 - Online**

**Answers**

Name : \_\_\_\_\_

## Answer Key

Score : \_\_\_\_\_

### Ratio: Part to Whole

Level 2: S1

1)



The ratio of vegetables to potatoes

8 : 3

2)



The ratio of T-shirts to clothes

5 : 9

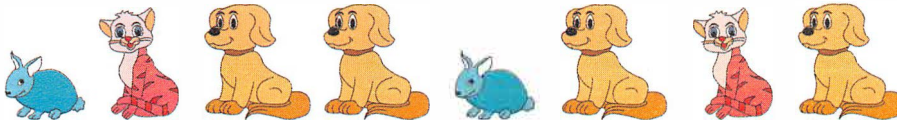
3)



The ratio of furniture to chairs

6 : 1

4)



The ratio of rabbits to domestic animals

2 : 8 or 1 : 4

5)



The ratio of stationery to erasers

7 : 4

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## Answer Key

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### Ratio: Dividing into Parts

Sheet 1

Find the share of each part.

- 1) Divide \$50 in the ratio 2 : 3.

\$20 and \$30

- 3) Divide 105 lb in the ratio 8 : 7.

56 lb and 49 lb

- 5) Divide 72 oz in the ratio 4 : 5.

32 oz and 40 oz

- 2) Divide 81 ft in the ratio 5 : 4.

45 ft and 36 ft

- 4) Divide 49 yd in the ratio 1 : 6.

7 yd and 42 yd

- 6) Divide 121 mi in the ratio 9 : 2.

99 mi and 22 mi

- 7) Jace gave \$100 to her daughter Kailey and asked her to spend three parts and save two parts of the total amount. How much did Kailey spend and how much did she save?

\$60 and \$40



**Answer key****Ratio - Two Quantities**

Sheet 1

- 1) A new born baby has 270 bones and an adult has 206 bones. Find the ratio of bones in an adult to that of a new born baby?

206 : 270 or 103 : 135

- 2) Kim receives 120 official e-mails on Monday morning. She responds to 60 e-mails. What is the ratio of e-mails that Kim received to the mails that she answered?

120 : 60 or 2 : 1

- 3) A boutique sold 72 designer outfits and 24 pieces of jewelry over the Christmas weekend. Find the ratio of the number of outfits sold to the pieces of jewelry sold?

72 : 24 or 3 : 1

- 4) There are 26 letters in the English language and 24 in Korean. What is the ratio of letters in the Korean language to the letters in the English language?

24 : 26 or 12 : 13

- 5) The Earth takes 24 hours to rotate around its own axis and the moon takes 27 days. What is the ratio of the time taken by the moon to the time taken by the Earth to rotate around their respective axes? (Hint: Convert hours to days)

27 : 1

**Finding Whole From The Part**

Sheet 1

- 1) Sam and Jo collected stamps in the ratio of 6 : 5. If Sam collects 36 stamps, how many stamps did they collect altogether?

**66 stamps collected altogether**

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- 2) Ray and Jessica contest in an election. They receive votes in the ratio 7 : 9. If the successful candidate receives 1080 votes, how many votes were cast in all?

**1920 votes were cast in all**

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- 3) Eggplants and okra were planted in a vegetable garden in the ratio of 4 : 1. If 333 okra seedlings are present, find the total number of seedlings in the garden.

**Total of 1665 seedlings were planted**

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- 4) Henry went on a fishing trip. He hooked a salmon for every 2 catfish he caught. What was his total catch, if he caught 16 catfish?

**24 fish in total**

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- 5) Rhea saved three parts of her salary and spent one part of it to rent an apartment. If she spent \$765 on rent, calculate Rhea's earnings.

**Rhea earns \$3060**

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**Answer key****Finding Part From Whole**

Sheet 1

- 1) Roy rears Randall and Jersey cattle breeds in the ratio of 6 : 5. If he has a total of 242 cattle on his farm, how many Randall cattle and how many Jersey cattle does he own?

**132 Randall cattle and 110 Jersey cattle**

- 2) Joanna is reading a storybook. The ratio of the number of pages she read to the pages that remain to be read is 7 : 3. If the book contains 500 pages in all, how many pages did Joanna read and how many pages remain to be read?

**She read 350 pages and 150 pages remain to be read**

- 3) George and Tanya typed in words in the ratio of 1 : 5 in 20 minutes. They typed 864 words altogether. Find the number of words that each of them typed.

**George typed 144 words and Tanya typed 720 words**

- 4) Mailmen, Carl and Wilbur deliver mails in the ratio of 3 : 8 in the month of April. If 1012 mails were delivered in all between them, how many mails did each of them deliver?

**Carl delivered 276 mails and Wilbur delivered 736 mails**

- 5) A wire that is 117 inches long is cut in two in the ratio 8 : 1. Find the length of each piece of wire.

**One wire measures 104 inches and the other 13 inches**

# Ratio and Proportion Worksheet

Write the correct answer:

1. Beef must be cooked for 40 minutes for every 1kg. How long would it take to cook:

2 kgs? **80 minutes/1 hour 20 minutes**

5.5 kgs? **220 minutes/3 hours 20 minutes**

6.25 kgs? **250 minutes/4 hours 10 minutes**

8.75 kgs? **350 minutes/5 hours 50 minutes**

2. To make  $\frac{3}{4}$  litre of jam, I use 45 strawberries. How many strawberries do I need to make:

2 litres? **120 strawberries** 3.5 litres? **210 strawberries**

3. I need to collect 66 stickers. Each bag of crisps contains 3 stickers. How many six-pack bags will I need to buy?

**4 six-packs** How many bags will be left over? **2 bags**

4. The mother bear is fed 6 fish for every 3 fish that her cub is fed. How many fish would the cub get if the mother is fed:

18 fish? **9 fish** 26 fish? **13 fish**

5. There are 6 boys for every 9 girls at the disco. How many boys are there if there are:

54 girls? **36 boys** 144 girls? **96 boys**

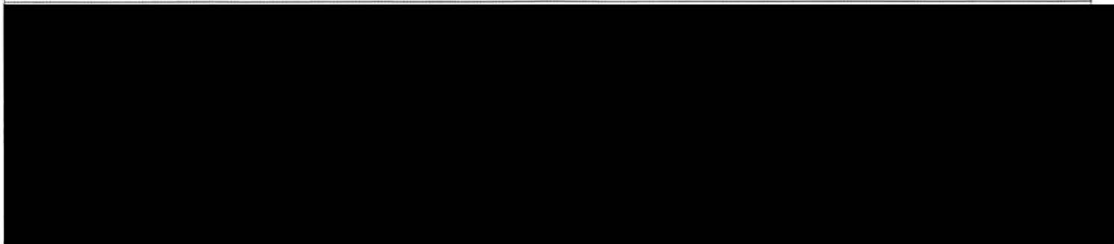
## Answers



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1. Probabilities here are given as fractions, but equivalent decimals are just as valid.

a) ~~4~~/10 or  $2/5$  b)  $1/2$  or  $10/20$  c)  $8/20$  or  $2/5$  d)  $4/14$  or  $2/7$  e)  $6/20$  or  $3/10$  f)  $6/11$  g)  $3/16$  h)  $12/1000$  or  $3/250$



Student Name: \_\_\_\_\_

Score: \_\_\_\_\_

Answer key

**Probability Worksheet**

<p>1) The possibility of raining today is 40%.</p> <p>a) Find the odds that it will rain today. Answer: 2 : 3</p> <p>b) Find the odds that it will not rain today. Answer: 3 : 2</p>	
<p>2) The probability of choosing a red ball is <math>\frac{2}{7}</math> and the black ball is <math>\frac{3}{7}</math></p> <p>a) Find the odds in favor of red. Answer: 2 : 5</p> <p>b) Find the odds in favor of black. Answer: 3 : 4</p> <p>c) Find the odds against red or black. Answer: 2 : 5</p> <p>d) Find the odds in favor of red or black. Answer: 5 : 2</p>	
<p>3) The probability of winning the game is <math>\frac{6}{7}</math></p> <p>a) Find the odds in favor of win Answer: 6 : 1</p> <p>c) Find the odds in favor of loss Answer: 1 : 6</p>	

Student Name: \_\_\_\_\_

Score: \_\_\_\_\_

Answer key

**Deck of Cards Worksheet**

Find the probability of drawing a black card.  Answer: $\frac{1}{2}$	
Find the probability of drawing a red card.  Answer: $\frac{1}{2}$	
Find the probability of drawing either a red or black.  Answer: <b>1</b>	
Find the probability of drawing an ace.  Answer: $\frac{1}{13}$	
Find the probability of drawing either a jack or queen or king.  Answer: $\frac{3}{13}$	

Student Name: \_\_\_\_\_

Score: \_\_\_\_\_

Answer key

**Independent and Dependent**

<p>Find the probability of selecting a king from the first card.</p> <p>Answer: <math>\frac{1}{13}</math></p>	
<p>If the first card is king and the card is not replaced, what is the probability of selecting a king from the second card?</p> <p>Answer: <math>\frac{1}{17}</math></p>	
<p>Find the probability of selecting a king from the first card and a queen from the second card without replacing the first card.</p> <p>Answer: <math>\frac{4}{52} * \frac{4}{51} = \frac{4}{663}</math></p>	
<p>Find the probability of selecting a Jack from the first card and queen from the second card with replacement.</p> <p>Answer: <math>\frac{4}{52} * \frac{4}{52} = \frac{1}{169}</math></p>	
<p>Find the probability of selecting 6 or 7 in the first draw and 8 or 9 in the second draw without replacement.</p> <p>Answer: <math>\frac{8}{52} * \frac{8}{52} = \frac{4}{169}</math></p>	

Student Name: \_\_\_\_\_

Score: \_\_\_\_\_

Answer key

**Independent and Dependent**

<p>Selecting a green marble on the second draw if the first marble is blue.</p> <p>Answer: <math>\frac{4}{9}</math></p>	
<p>Selecting a white marble on the first draw and red marble on the second draw.</p> <p>Answer: <math>\frac{3}{10} * \frac{2}{9} = \frac{1}{15}</math></p>	
<p>Selecting a red marbles on both draws.</p> <p>Answer: <math>\frac{2}{10} * \frac{1}{9} = \frac{1}{45}</math></p>	
<p>Selecting a red or white on the first draw and green or blue on the second draw.</p> <p>Answer: <math>\frac{5}{10} * \frac{5}{9} = \frac{5}{18}</math></p>	
<p>Selecting a white marble on the first draw and a white or blue on the second draw.</p> <p>Answer: <math>\frac{3}{10} * \frac{3}{9} = \frac{1}{10}</math></p>	

## Test 4

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- Q1 C**  
The right-hand side folds on top of the left-hand side to form a semicircle.
- Q2 B**  
The top right half folds directly on top of the bottom left half.
- Q3 A**  
The right arrow folds directly on top of the left arrow.
- Q4 B**  
The top right half folds directly on top of the bottom left half.
- Q5 C**  
The bottom section folds up over the top section.
- Q6 A**  
The bottom section folds up over the top section.
- Q7 C**  
The top section folds down over the bottom section.
- Q8 D**  
The arrow on the left folds over on to the right.
- Q9 B**  
The bottom section folds up over the top section.
- Q10 D**  
The top section folds down over the bottom section.

### Test 5

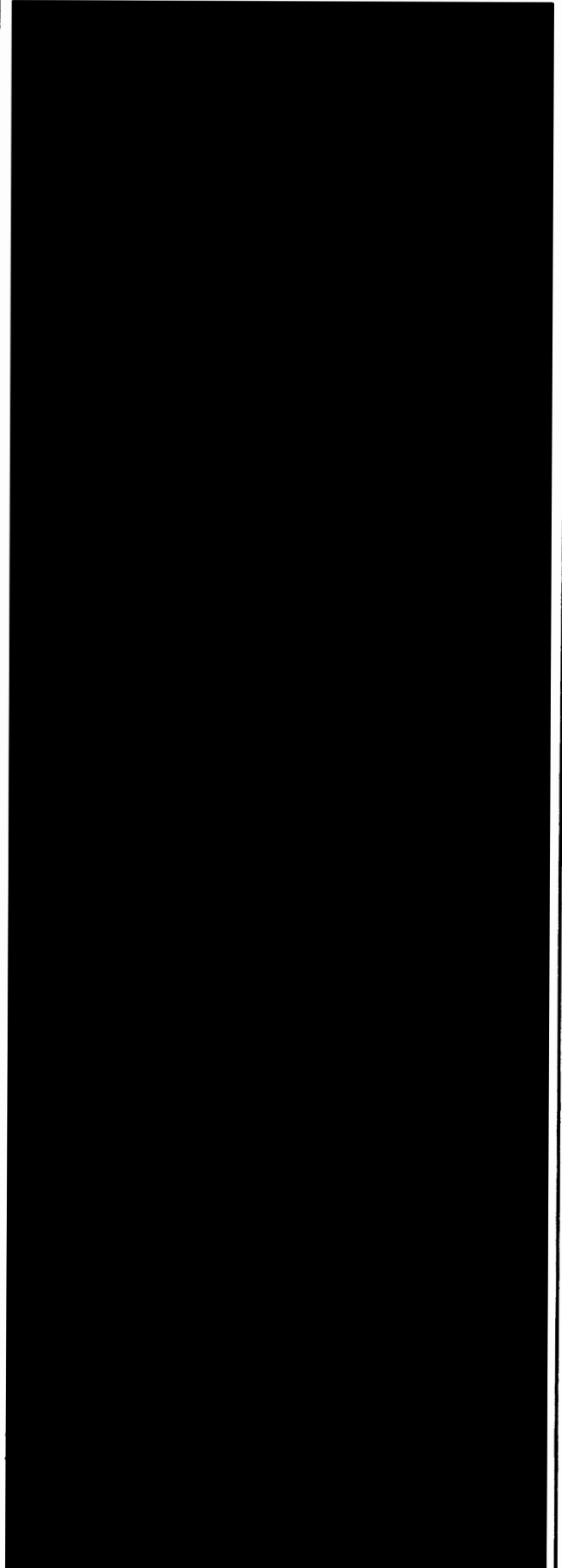
- Q1 A
- Q2 B
- Q3 A
- Q4 A
- Q5 D
- Q6 B
- Q7 B
- Q8 D
- Q9 B
- Q10 C

### Test 6

- Q1 B  
The shape has 9 blocks visible from above, which rules out A, C and D.
- Q2 D  
The shape has 6 blocks visible from above, which rules out B and C. The shape only has 1 horizontal line of 3 blocks, which rules out A.
- Q3 C  
The shape only has 1 block in the centre of the front row, which rules out A, B and D.
- Q4 A  
The shape has a hole surrounded by blocks, which rules out B, C and D.
- Q5 B  
The shape has 7 blocks visible from above, which rules out A, C and D.
- Q6 B  
The shape has 8 blocks visible from above, which rules out A and C. The shape has 1 dark block visible from above, which rules out D.
- Q7 A  
The shape has no dark blocks visible from above, which rules out B, C and D.
- Q8 A  
The shape has 1 dark block visible from above, which rules out D. The dark block is in the back row of the shape with a light block to its left, which rules out B and C.
- Q9 D  
The shape has 5 blocks visible from above, which rules out A and C. The shape has no dark blocks visible from above, which rules out B.

### Q10 B

The shape has 2 dark blocks visible from above, which rules out A, C and D.



# **TYPE TWENTY-FOUR:**

<b>24</b>	<b>36</b>
<b>10</b>	<b>14</b>
<b>11</b>	<b>12</b>
<b>14</b>	<b>14</b>
<b>9</b>	<b>7</b>
<b>10</b>	<b>12</b>
<b>5</b>	<b>20</b>
<b>6</b>	<b>41</b>
<b>48</b>	<b>12</b>
<b>30</b>	<b>15</b>
<b>30</b>	<b>37</b>
<b>56</b>	<b>9</b>
<b>10</b>	<b>16</b>
<b>7</b>	<b>30</b>
<b>160</b>	<b>11</b>
<b>2</b>	<b>9</b>
<b>36</b>	<b>11</b>
<b>25</b>	<b>16</b>
<b>50</b>	<b>10</b>
<b>27</b>	<b>60</b>

## **TYPE TWENTY-FIVE:**

$$36 \div 4 \div 3 \text{ or } 36 \div 3 \div 4$$

$$9 \times 4 \div 2 \text{ or } 4 \times 9 \div 2$$

$$6 \times 5 \times 2 \text{ (in any order)}$$

$$21 - 5 - 4 \text{ or } 21 - 4 - 5$$

$$42 \div 7 \div 3 \text{ or } 42 \div 3 \div 7$$

$$10 \times 5 \times 3 \text{ (in any order)}$$

$$6 \times 5 - 4 \text{ or } 5 \times 6 - 4$$

$$8 \times 4 \times 2 \text{ (in any order)}$$

$$21 - 9 - 6 \text{ or } 21 - 6 - 9$$

$$9 \times 6 \times 3 \text{ (in any order)}$$

$$21 - 10 - 2 \text{ or } 21 - 2 - 10$$

$$10 - 8 + 3$$

$$5 \times 4 \times 2 \text{ (in any order)}$$

$$35 + 25 - 23 \text{ or } 25 + 35 - 23$$

$$60 \div 5 \div 3 \text{ or } 60 \div 3 \div 5$$

$$15 - 3 - 3$$

$$12 \times 2 + 2 \text{ or } 2 \times 12 + 2$$

$$20 \div 2 - 2$$

$$9 \div 3 + 3$$

$$21 \times 4 - 4 \text{ or } 4 \times 21 - 4$$