RATIOS

A DEFINITION

A.1 EXPRESSING RATIOS IN DIFFERENT FORMS

Ex 1: The ratio of 3 to 2 is $\square:\square$ or $\frac{\square}{\square}$.

Ex 2: The ratio of 4 to 5 is $\square:\square$ or $\frac{\square}{\square}$.

Ex 3: The ratio of 7 to 3 is $\square:\square$ or $\frac{\square}{\square}$.

Ex 4: The ratio of 6 to 9 is $\square:\square$ or $\frac{\square}{\square}$.

B PART-PART RATIOS

B.1 FINDING RATIOS IN PART-PART RELATIONSHIPS

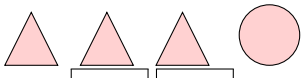
Ex 5: What is the ratio of girls to boys?

$\square:\square$

Ex 6: What is the ratio of girls to boys?

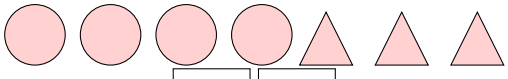
$\square:\square$

Ex 7: What is the ratio of triangles to circles?



$\square:\square$

Ex 8: What is the ratio of circles to triangles?



$\square:\square$

C PART-WHOLE RATIOS

C.1 FINDING RATIOS IN WHOLE-PART RELATIONSHIPS

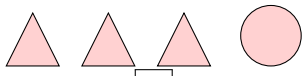
Ex 9: What is the ratio of girls to kids?

$\frac{\square}{\square}$

Ex 10: What is the ratio of girls to kids?

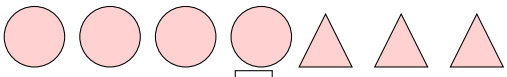
$\frac{\square}{\square}$

Ex 11: What is the ratio of triangles to shapes?



$\frac{\square}{\square}$

Ex 12: What is the ratio of circles to shapes?



$\frac{\square}{\square}$

C.2 FINDING RATIOS IN WHOLE-PART RELATIONSHIPS

Ex 13: Anna loves to read books. In all, she has read 12 mystery novels, 8 science fiction novels, 5 fantasy novels, and 3 historical novels.
What is the ratio of Anna's mystery novels to all of her books?

$\square:\square$

Ex 14: The table shows the number of different types of birds swimming at a lake.

Bird	Number
Seagulls	1
Ducks	9
Geese	7
Swans	2

What is the ratio of swans to total birds?

$\square:\square$

Ex 15: The table shows the number of different types of fruits in a basket.

Fruit	Number
Apples	3
Oranges	5
Bananas	4
Grapes	6

What is the ratio of apples to total fruits?

$\square : \square$

Ex 16: The table shows the number of different types of vehicles in a parking lot.

Vehicle	Number
Cars	10
Bicycles	6
Motorcycles	4
Trucks	2

What is the ratio of trucks to total vehicles?

$\square : \square$

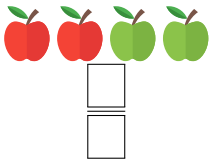
Ex 17: Louis loves to play sports. In all, he has earned 5 swimming medals, 3 running medals, 6 cycling medals, and 2 triathlon medals.
What is the ratio of Louis's swimming medals to all of his medals?

$\square : \square$

D EQUIVALENT RATIOS

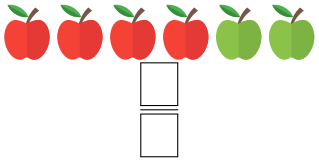
D.1 SIMPLIFYING RATIOS

Ex 18: What is the ratio of red apples to all apples (write in simplified form)?



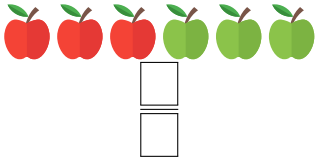
$\square$
$\square$

Ex 19: What is the ratio of red apples to all apples (write in simplified form)?



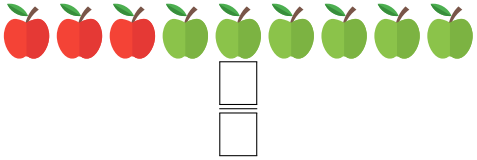
$\square$
$\square$

Ex 20: What is the ratio of red apples to all apples (write in simplified form)?



$\square$
$\square$

Ex 21: What is the ratio of red apples to all apples (write in simplified form)?



$\square$
$\square$

D.2 MULTIPLYING THE RATIOS

Ex 22: Multiply the ratio by 2:

$3 : 5 = \square : \square$

Ex 23: Multiply the ratio by 3:

$4 : 7 = \square : \square$

Ex 24: Multiply the ratio by 4:

$5 : 3 = \square : \square$

Ex 25: Multiply the ratio by 5:

$2 : 5 = \square : \square$

D.3 FINDING THE MISSING VALUE

Ex 26:

$1 : 2 = 2 : \square$

Ex 27:

$2 : 3 = \square : 6$

Ex 28:

$3 : 5 = 9 : \square$

Ex 29:

$4 : 7 = \square : 14$

Ex 30:

$2 : 3 = 8 : \square$

Ex 31:

$3 : 2 = \square : 20$

E PROPORTION

E.1 IDENTIFYING THE PROPORTION

MCQ 32: Two vinaigrettes are being prepared:

- Vinaigrette A is made with 2 mL of oil and 1 mL of vinegar.
- Vinaigrette B is made with 4 mL of oil and 2 mL of vinegar.

Will these two vinaigrettes taste the same?

☐ Yes

☐ No

MCQ 33: On the cement package, it is indicated: 2 kilos of cement for 3 liters of water.
A worker prepares a mixture with 4 kilos of cement and 6 liters of water.
Did he follow the recommended proportions?

☐ Yes

☐ No

MCQ 34: Two smoothie recipes are being prepared:

- Smoothie A is made with 3 cups of fruit and 2 cups of yogurt.
- Smoothie B is made with 6 cups of fruit and 4 cups of yogurt.

Will these two smoothies taste the same?

☐ Yes

☐ No

MCQ 35: A gardener uses a fertilizer mix:

- The recommended mix is 5 grams of fertilizer per 2 liters of water.
- The gardener prepares a mixture with 10 grams of fertilizer and 4 liters of water.

Did the gardener follow the recommended proportions?

☐ Yes

☐ No

F PART IN WHOLE-PART RELATIONSHIPS

F.1 FINDING PARTS IN WHOLE-PART RELATIONSHIPS

Ex 36:

$\frac{1}{2}$ of 4 is ☐.

Ex 37:

$\frac{2}{3}$ of 6 is ☐.

Ex 38:

$\frac{1}{2}$ of 8 is ☐.

Ex 39:

$\frac{3}{4}$ of 8 is ☐.