Year 7 Class 14 questions

Q1

Simplify fully.

12 : 16

☐ : ☐

Q2

Complete the simplified ratio.

80 mm : 5.6 cm

☐ : ☐

Q3

Find the ratio of squares to triangles.

☐ : ☐
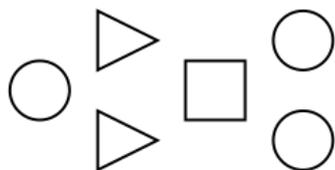
Q4

6 : 8 : 3

30 : ☐ : ☐

Q5

Rose mixes water and flour in the ratio 1 : 3. How much flour should be mixed with 4.5 cups of water?

☐ cups

Q6

Hugo leaves home at 9am to go to Jim's. He jogs for a while then walks the rest of the way. After playing with Jim he goes home, jogging part of the way before he stops to pick flowers for his mum.

Hugo's Travel Graph

How long did Hugo take to get to Jim's?

☐ minutes

How far did Hugo *jog* on the way to Jim's?

☐ metres

How far did Hugo *walk* on the way to Jim's?

☐ metres

How far is Jim's home from Hugo's?

☐ metres

How long did Hugo stay at Jim's?

☐ minutes

How long did Hugo stop to pick flowers?

☐ minutes

Q7

Simplify fully.

180 : 100

☐ : ☐

Q8

Simplify fully.

160 : 360

☐ : ☐

Q9

Complete the simplified ratio.

0.2 : 3.75

☐ : ☐

Q10

Complete the simplified ratio.

$\frac{3}{5}$: $\frac{2}{3}$

☐ : ☐

Q11

There are 12 buckets of sand and 4 buckets of cement in a cement mix. Write the simple ratio of:

sand : cement

☐ : ☐

cement : sand

☐ : ☐

sand : total mix

☐ : ☐

Q12

Of the 135 marbles in a bag, 45 are blue. Write the simple ratio of:

blue marbles : marbles that are not blue

☐ : ☐

marbles that are not blue : blue marbles

☐ : ☐

marbles that are not blue : total number of marbles

☐ : ☐

Q13

7 : 4

☐ : 78

Q14

10 : 3

46 : ☐

Q15

Ruby and Finn share a packet of biscuits in the ratio 6 : 7.

If Ruby has 30 biscuits, how many biscuits are there altogether?
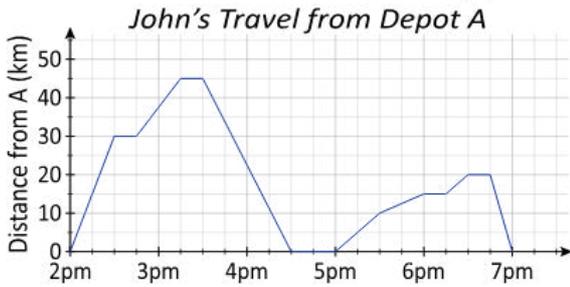
☐

Q16

Aria plants violets and daffodils in the ratio 14 : 13.

If she plants 42 violets, how many flowers did she plant altogether?

☐

Q17

John works as a courier delivering parcels.

John's Travel from Depot A

How far was John from A at 2.30pm?

⬚ km

Find his average speed from 5pm to 6pm.

⬚ km/h

What was John's average speed from 2pm to 2.30pm? ⬚ km/h

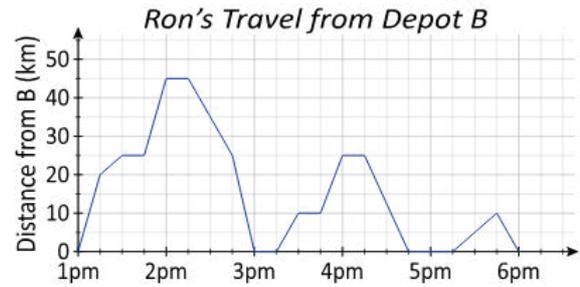What was the total distance covered from 2.30pm to 4.30pm? ⬚ km

For how long did John stop when he returned to the depot for the first time?

⬚ minutes

Including stops, find his average speed from 2pm to 7pm. ⬚ km/h

Q18

Ron works as a courier delivering parcels.

Ron's Travel from Depot B

How far was Ron from B at 2.30pm?

⬚ km

Find his average speed from 1pm to 2pm.

⬚ km/h

What was Ron's average speed from 2.45pm to 3pm? ⬚ km/h

What was the total distance covered from 3.45pm to 4.45pm? ⬚ km

How long did Ron stop for when he returned to the depot for the 2nd time?

⬚ minutes

Including stops, find his average speed from 1pm to 6pm. ⬚ km/h

Q19

Simplify fully.

24 : 64 : 40

⬚ : ⬚ : ⬚

Q20

Simplify fully.

360 : 160 : 280

⬚ : ⬚ : ⬚

Q21

Complete the simplified ratio.

$$\frac{5}{8} : \frac{3}{10}$$

⬚ : ⬚

Q22

Complete the simplified ratio.

$$\frac{4}{5} : \frac{3}{4} : \frac{1}{2}$$

[ ] : [ ] : [ ]

Q23

A cricket bag contains 8 white balls, 12 red balls and 6 pink balls.
Write the simple ratio of:

red balls : pink balls

[ ] : [ ]

pink balls : white balls

[ ] : [ ]

white balls : total number of balls

[ ] : [ ]

Q24

Jake has 120 marbles. 90 of them are clear, 15 of them are black and 15 the rest are coloured. Write the simple ratio of:

black : coloured

[ ] : [ ]

coloured : clear

[ ] : [ ]

clear : total number of marbles

[ ] : [ ]

coloured : black : clear

[ ] : [ ] : [ ]

What fraction of the marbles are black?

$$\frac{1}{8} \qquad \frac{1}{6} \qquad \frac{3}{4} \qquad \frac{1}{4}$$

Q25

5 : 8 : 3

74 : [ ] : [ ]

Q26

8 : 3 : 7

260 : [ ] : [ ]

Q27

In a class the ratio of boys to girls is 7 : 6. There are 12 girls.

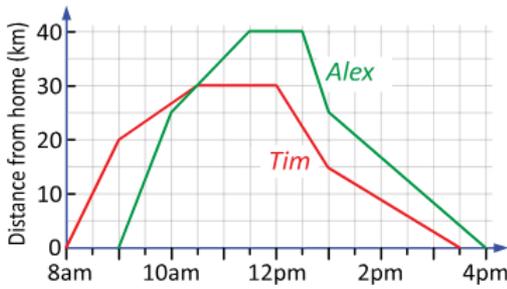Find the difference between the number of boys and girls.

[ ]

Q28

The ratio of canaries to budgies in an aviary is 3 : 8. Currently there are 16 budgies in the aviary. Next week, 2 budgies are being sold while 3 new canaries will join the team.

Find what the new ratio of canaries to budgies will be.

[ ] : [ ]

Q29

The graph shows the cycling trips of two brothers (Alex and Tim) along the same route. When did Alex leave home?

○ 8 am   ○ 8:30 am   ○ 9 am   ○ 9:30 am

When did Tim arrive back home?

○ 4 pm   ○ 3:30 pm   ○ 2 pm   ○ 2:30 pm

When did Alex overtake Tim?

○ 10 am   ○ 10:30 am   ○ 11 am   ○ 10:15 am

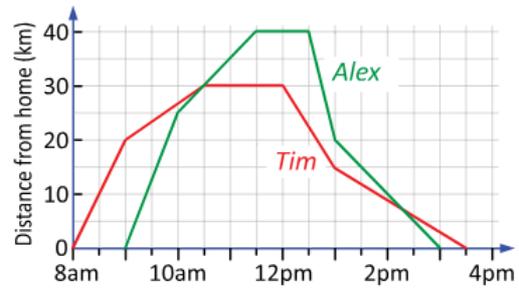What was Tim's fastest speed?

○ 12 km/h   ○ 15 km/h   ○ 20 km/h

Tim's average speed for his whole trip is closest to

○ 8 km/h   ○ 9.5 km/h   ○ 11.4 km/h

Q30

The graph shows the cycling trips of two brothers (Alex and Tim) along the same route. How long did Alex rest for?

○ 30 min   ○ 45 min   ○ 60 min   ○ 90 min

When did Alex pass Tim for the 2nd time?

○ 10 am   ○ 10:30 am   ○ 2.15 pm   ○ 3 pm

How far did Tim travel altogether?

[   ] km

Find the fastest speed Alex reached.

○ 25 km/h   ○ 30 km/h   ○ 40 km/h

Alex's average speed for his whole trip is closest to

○ 13.3 km/h   ○ 6.7 km/h   ○ 15.7 km/h