

KS1 Maths Challenge: Mixed Problems

Number, place value, shape, fractions, measures and problem solving.

Name _____ Date _____ Class _____

Learning objective: I can use what I know about number, shape and measures to solve problems.

✓ I can partition two-digit numbers ✓ I know the properties of 2-D shapes ✓ I can find simple fractions

1 Tens and ones Partition each number into tens and ones.

47 = tens and ones

63 = tens and ones

90 = tens and ones

18 = tens and ones

2 Compare Write <, > or = in each box.

34 43

56 56

71 17

29 30

8 + 4 13

40 4 × 10

3 2-D shapes Complete the table.

Shape	Number of sides	Number of vertices (corners)
triangle		
square		
rectangle		
pentagon		
hexagon		
circle		

4 Fractions Find each fraction of the number. Draw pictures to help.

1 $\frac{1}{2}$ of 10

2 $\frac{1}{2}$ of 16

3 $\frac{1}{4}$ of 12

4 $\frac{1}{4}$ of 20

5 $\frac{1}{3}$ of 9

6 $\frac{3}{4}$ of 8

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5 Number patterns Fill in the missing numbers. Say what the pattern is counting in.

2	4	6		10	
5	10	15			30
30	40		60		80
3	6	9		15	
50	45	40			25

6 Quick quiz Circle the correct answer.

- 1 Which number is even?
 (A) 17 (B) 23 (C) 36 (D) 45
- 2 A pencil is about ... long.
 (A) 15 cm (B) 15 m (C) 150 m (D) 1 cm
- 3 Which shape has 6 faces?
 (A) cone (B) cube (C) sphere (D) cylinder
- 4 Which is the heaviest?
 (A) 500 g (B) 1 kg (C) 50 g (D) 900 g
- 5 What is 10 more than 64?
 (A) 65 (B) 54 (C) 74 (D) 164

7 Problem solving Show how you worked it out.

- 1 There are 4 cars. Each car has 4 wheels. How many wheels are there altogether?

- 2 Sam cut a pizza into 4 equal pieces and ate 1 piece. What fraction of the pizza is left?

- 3 I am a 2-digit number. I have 5 tens. My ones digit is 2 more than my tens digit. What number am I?

Answer Key

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Question	Answers
1 Tens and ones	47 = 4 tens and 7 ones; 63 = 6 tens and 3 ones; 90 = 9 tens and 0 ones; 18 = 1 ten and 8 ones
2 Compare	1 <; 2 =; 3 >; 4 <; 5 <; 6 = (8 + 4 = 12, which is less than 13; 4 × 10 = 40)
3 2-D shapes	triangle – Number of sides: 3 , Number of vertices (corners): 3 square – Number of sides: 4 , Number of vertices (corners): 4 rectangle – Number of sides: 4 , Number of vertices (corners): 4 pentagon – Number of sides: 5 , Number of vertices (corners): 5 hexagon – Number of sides: 6 , Number of vertices (corners): 6 circle – Number of sides: 1 curved side , Number of vertices (corners): 0
4 Fractions	1 5 ; 2 8 ; 3 3 ; 4 5 ; 5 3 ; 6 6
5 Number patterns	1 8, 12 (counting in 2s); 2 20, 25 (counting in 5s); 3 50, 70 (counting in 10s); 4 12, 18 (counting in 3s); 5 35, 30 (counting back in 5s)
6 Quick quiz	1 C (36); 2 A (15 cm); 3 B (cube); 4 B (1 kg); 5 C (74)
7 Problem solving	1. 4 + 4 + 4 + 4 = 16 wheels (4 × 4). 2. $\frac{3}{4}$ (three quarters) 3. 57

Teaching note: mostly Year 2 content (place value to 100, < > =, properties of 2-D and 3-D shapes, fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{2}$ and $\frac{3}{4}$, and choosing units of measure). Year 1 children can try the tens and ones, number patterns (2s, 5s and 10s) and $\frac{1}{2}$ and $\frac{1}{4}$ questions. A circle has one curved side and no vertices.