1. Olivia has made a sequence of numbers using six number cards. Here are three of the cards:

10	15	20

a. Can you think of one sequence Sophie could have made?

b. Can you think of any more?

2. You have all of the even numbers between 0 and 10 as number cards.

a. What is the largest two-digit number that you can make?

b. What is the smallest two-digit number that you can make?

c. What is the number closest to 50 that you can make?

d. What is the number closest to 7 that you can make?

e. How would your answers be different if you only had odd numbers between 0 and 10?

3. Isak has written a list of two-digit numbers.

The digits of each number add up to 5.

a. Can you find all the numbers Isak could have written?

b. Can you write the numbers in order from smallest to largest?

c. Why can't both digits be even numbers?

4. Here are some digit cards:

1	3	5

Isak and Luka take turns to use two of the cards to make a two-digit number.

Isak says: "I have made the largest number you can make."

Luka says: "I have made the smallest number you can make."

What is the difference between their numbers?

Answers

Question	Answer
Question 1	
a	10, 15, 20, 25, 30, 35
b	35, 30, 25, 20, 15, 10 0, 5, 10, 15, 20, 25 25, 20, 15, 10, 5, 0 5, 10, 15, 20, 25, 30 30, 25, 20, 15, 10, 5
Question 2	
a	86
b	24
c	48
d	6 or 8
e	Largest number: 97 Smallest number: 13 Closest to 50: 51 Closest to 7:7

Question	Answer
Question 3	
a	14, 23, 32, 41, 50
b	14, 23, 32, 41, 50
c	Because two even numbers would not add up to 5. 5 is an odd number but two even numbers added together will always make an even number.
Question 4	
40	

1. Sophie has made a sequence of numbers using six number cards. Here are three of the cards:

18	21	24

a. Can you think of two sequences Sophie could have made?

b. Can you think of any more?

2. You have number cards for the numbers 2 to 8.

a. What is the largest two-digit odd number that you can make?

b. What is the largest two-digit even number that you can make?

c. What is the smallest odd number that you can make?

d. What is the smallest even number that you can make?

e. What is the number closest to 75 that you can make?

3. Amma has written a list of two-digit numbers.

The digits of each number add up to 7.

a. Can you find all the numbers Amma could have written?

b. Can you write the numbers in order from smallest to largest?

c. Why can't both digits be even numbers?

4. Here are some digit cards:

4	5	6	7

Isaac and Luka each use two of the cards to make a two-digit number.

Isak says: "I have made the largest number you can make."

Luka says: "I have made the smallest number you can make."

What is the difference between their numbers?

Answers

Question	Answer
Question 1	
a	18, 21, 24, 27, 30, 33
b	15, 18, 21, 24, 27, 30 12, 15, 18, 21, 24, 27 9, 12, 15, 18, 21, 24 33, 30, 27, 24, 21, 18 30, 27, 24, 21, 18, 15 27, 24, 21, 18, 15, 12 24, 21, 18, 15, 12, 9
Question 2	
a	87
b	86
c	3
d	2
e	75

Question	Answer
Question 3	
a	16, 25, 34, 43, 52, 61, 70
b	16, 25, 34, 43, 52, 61, 70
c	Because two even numbers would not add up to 7. 7 is an odd number but two even numbers added together will always make an even number.
Question 4	
31	

1. Sophie has made a sequence of numbers using seven number cards. Here are three of the cards:

6	12	18

a. Can you think of two sequences Sophie could have made?

b. Can you think of any more?

2. You have number cards for the numbers 0 to 9.

a. What is the largest odd three-digit number you can make?

b. What is the largest even three-digit number you can make?

c. What is the smallest odd three-digit number you can make?

d. What is the smallest even three-digit number you can make?

e. What is the largest multiple of 5 you can make?

3. Amma has written a list of two-digit numbers.

The digits of each number add up to 8.

a. Amma thinks that for each number, both digits must be even to add up to 8. Is she right?

b. Can you find all the numbers Amma could have written?

c. Can you write the numbers in order from smallest to largest?

4. Here are some digit cards:

2	5	8	9

Isaac and Luka each use two of the cards to make a two-digit number.

Isak says: "I have made the largest number you can make."

Luka says: "I have made ten less than the number you made."

Is this possible? What is the closest Luka could get? What is the difference between their numbers?

Answers

Question	Answer
Question 1	
Children may have spotted that they are able to make a sequence using either multiples of 2 or multiples of 3. Possible sequences include: 6, 9, 12, 15, 18, 21, 24. 24, 21, 18, 15, 12, 9, 6. 6, 8, 10, 12, 14, 16, 18. 18, 16, 14, 12, 10, 8, 6.	
Question 2	
a	*987*
b	*978*
c	*103*
d	*102*
e	*985*

Question	Answer
Question 3	
a	*Is she right? No. The two digits must be either both odd or both even because 8 is an even number.*
b	*17, 26, 35, 44, 53, 62, 71, 80*
Question 4	
No because ten less would be 88 and there is only one 8 digit card. The closest Luka could get to 88 is 89. The difference between their numbers is 9.	