Find and use multiples

1 Write the first six multiples of each number.

a) 8	8	16	24	32	40	48
b) 15	15	30	45	60	75	90
c) 79	79	158	237	316	395	474

2 Here are some number cards.

15	16	18	20	24
25	28	30	32	35

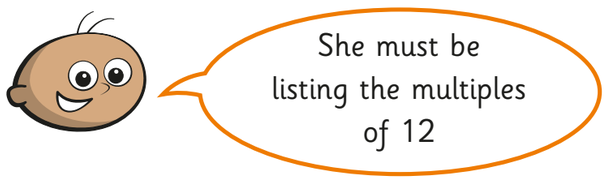
Use the cards to give five multiples of each number.

a) 4	16	20	24	28	32
b) 5	15	20	25	30	35
c) 2.5	15	20	25	30	35

What do you notice about your answers to parts b) and c)?

3 Nijah is listing the multiples of a number.

The numbers 12 and 36 are in her list.



Do you agree with Tommy? No

Explain your answer.

4 Teddy is working out the smallest multiple of 9 that is greater than 500

Do you agree with Teddy? No

Explain your answer.

He could use $9 \times 5 = 45$, so $9 \times 50 = 450$ and $9 \times 55 = 495$. $495 + 9 = 504$ so 504 is the first multiple of 9 greater than 500

5 Are the statements true or false?

a) 55.5 is a multiple of 5 — false

b) 5 is a multiple of 10 — false

c) 49 is a multiple of 3.5 — true

d) 45 is 3 more than a multiple of 6 — true

e) 11,211 is a multiple of 3 — true

Discuss with a partner how you decided.

6 A number 58 bus leaves the station every 12 minutes between 9 am and 5 pm.

How many number 58 buses leave the station in a day?

5 per hour for 8 hours

$5 \times 8 = 40$

40

7 Jack and Kim complete a test.

- The highest possible score is 80 marks.
- Jack's score is a multiple of 9
- Kim's score is a multiple of 7
- Kim scored 16 fewer marks than Jack.

How many marks did Jack score out of 80?

72

8

The 6-digit number 23,456__ is a multiple of 3

What is the missing digit?

e.g. 1

Discuss your method with a partner.

Is there more than one solution?

9 Alex is thinking of a number.

- The number is greater than 10, but less than 20
- She knows her number is not a multiple of 2
- If she multiplies her number by 8, she will get a multiple of 12

What number is Alex thinking of?

15

10 x is a positive integer.

a) What value of x would make the expression $3x + 9$ a multiple of 7?

e.g. 4

b) What value of x would make the expression $3x + 9$ a multiple of both 4 and 6?

e.g. 1

c) What value of x would make the expression $3x + 9$ a multiple of 5, but not a multiple of 10?

e.g. 12

Is there more than one solution for each part?

11 y is a positive integer.

a) State whether the expressions are always, sometimes or never a multiple of 3

$6y$	$6y + 1$	$5y + 6$	$6y - 6$
always	never	sometimes	always

$y \div 3$	$y - 3$	$6 - y$	$6y - 3$
sometimes	sometimes	sometimes	always

b) For any expressions that are sometimes a multiple of 3, give a value of y to support your answer.

e.g. $5y + 6$ when $y = 6$ $6 - y$ when $y = 3$

$y \div 3$ when $y = 9$

$y - 3$ when $y = 12$

Talk about it with a partner.