

Factors - Worksheet

Skill

Group A - Listing factors

List all the factors of the following numbers:

- | | | |
|---------|---------|---------|
| 1) 6 | 2) 8 | 3) 9 |
| 4) 10 | 5) 20 | 6) 25 |
| 7) 35 | 8) 45 | 9) 40 |
| 10) 120 | 11) 248 | 12) 243 |

Group B - Identifying common factors

List all the factors of the following numbers. Write down any common factors:

- | | | |
|-----------------|-------------------|------------------|
| 1) 9 and 12 | 2) 9 and 45 | 3) 9 and 60 |
| 4) 15 and 12 | 5) 15 and 45 | 6) 45 and 18 |
| 7) 36 and 9 | 8) 36 and 60 | 9) 9 and 60 |
| 10) 8, 2 and 60 | 11) 18, 12 and 60 | 12) 18, 12 and 6 |

Group C - Finding the highest common factor

Find the highest common factors of the following groups of numbers:

- | | | |
|------------------|------------------|-------------------|
| 1) 4 and 14 | 2) 6 and 9 | 3) 9 and 21 |
| 4) 10 and 17 | 5) 30 and 45 | 6) 28 and 63 |
| 7) 24 and 36 | 8) 150 and 200 | 9) 12, 6 and 15 |
| 10) 12, 4, and 8 | 11) 8, 24 and 16 | 12) 12, 24 and 30 |

Factors - Worksheet

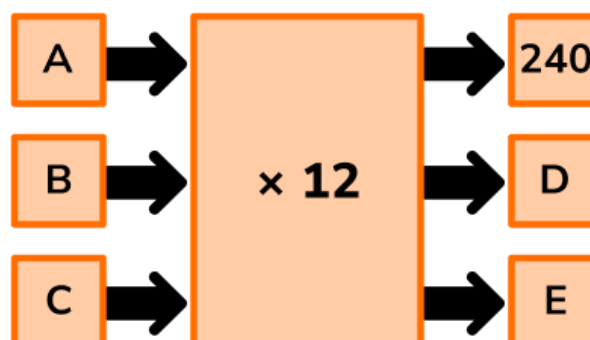
Applied

- 1) (a) Laura says that 6 is a common factor of 42, 36 and 50. Is she correct?
 (b) Alfie says that the number 56 has ten different factors. Is he correct?
 Show how you decided.

- 2) (a) Find the missing factors to complete the square.

4		60
		36
48	45	

- (b) Three factors are put into the function machine below.
 B is half of A.
 E is half of D.
 Find A, B, C, D and E.



- 3) (a) Which number is a factor of all other numbers?
 (b) Which two numbers are factors of all even numbers?
 (c) Which two numbers must be factors of all numbers whose last digit is 5?
 (d) Which four numbers must be factors of all numbers whose last digit is 0?
- 4) What is the highest common factor of 32 and 52 multiplied by the highest common factor of 12 and 48?

Factors - Exam Questions

- 1) (a) Write down all the factors of 16.

.....
(2)

- (b) Write down all the common factors of 16 and 26.

.....
(2)
(4 marks)

-
- 2) From the list of numbers:

3, 5, 7, 9, 11, 15, 24

- (a) Write down a factor of 12.

.....
(1)

- (b) Write down a factor of 28.

.....
(1)

- (c) Write down a factor of 81.

.....
(1)
(3 marks)

Factors - Exam Questions

3)

12	28	64
40	18	
	100	
35	6	38

From the box above, choose two numbers that:

- (a) Have a common factor of 10.

.....
(1)

- (b) Have a common factor of 7.

.....
(1)
(2 marks)

-
- 4) Find the highest common factor (HCF) of 54 and 90.

.....
(2 marks)

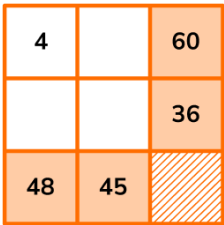
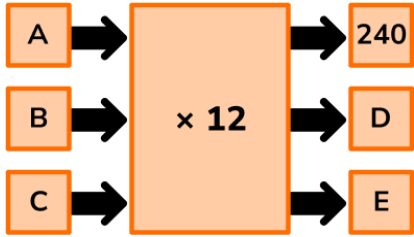
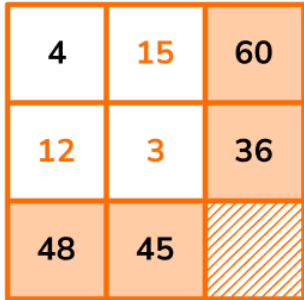
Factors - Answers

	Question	Answer
	Skill Questions	
Group A	List all the factors of the following numbers: 1) 6 2) 8 3) 9 4) 10 5) 20 6) 25 7) 35 8) 45 9) 40 10) 120 11) 248 12) 243	1) 1, 2, 3, 6 2) 1, 2, 4, 8 3) 1, 3, 9 4) 1, 2, 5, 10 5) 1, 2, 4, 5, 10, 20 6) 1, 5, 25 7) 1, 5, 7, 35 8) 1, 3, 5, 9, 15, 45 9) 1, 2, 4, 5, 8, 10, 20, 40 10) 1, 2, 3, 4, 5, 6, 8, 10, 12, 15, 20, 24, 30, 40, 60, 120 11) 1, 2, 4, 8, 31, 62, 124, 248 12) 1, 3, 9, 27, 81, 243
Group B	List all the factors of the following numbers. Write down any common factors: 1) 9 and 12 2) 9 and 45 3) 9 and 60 4) 15 and 12 5) 15 and 45 6) 45 and 18 7) 36 and 9 8) 36 and 60 9) 9 and 60 10) 8, 2 and 60 11) 18, 12 and 60 12) 18, 12 and 6	1) 1, 3 2) 1, 3, 9 3) 1, 3 4) 1, 3 5) 1, 3, 5, 15 6) 1, 3, 9 7) 1, 3, 9 8) 1, 2, 3, 4, 6, 12 9) 1, 3 10) 1, 2 11) 1, 2, 3, 6 12) 1, 2, 3, 6

Factors - Answers

Group C	Find the highest common factors of the following groups of numbers:	
	1) 4 and 14	1) 2
	2) 6 and 9	2) 3
	3) 9 and 21	3) 3
	4) 10 and 17	4) 1
	5) 30 and 45	5) 15
	6) 28 and 63	6) 7
	7) 24 and 36	7) 12
	8) 150 and 200	8) 50
	9) 12, 6 and 15	9) 3
	10) 12, 4, and 8	10) 4
	11) 8, 24 and 16	11) 8
	12) 12, 24 and 30	12) 6

Factors - Answers

	Question	Answer
	Applied Questions	
1)	a) Laura says that 6 is a common factor of 42, 36 and 50. Is she correct? b) Alfie says that the number 56 has ten different factors. Is he correct? Show how you decided.	a) No. 50 is not a multiple of 6. b) No. 56 has 8 different factors, 1, 2, 4, 7, 8, 14, 28, 56
2)	a) Find the missing factors to complete the square.  b) Three factors are put into the function machine below. B is half of A. E is half of D. Find A, B, C, D and E. 	a)  b) A = 20 B = 10 C = 5 D = 120 E = 60
3)	a) Which number is a factor of all other numbers? b) Which two numbers are factors of all even numbers? c) Which two numbers must be factors of all numbers whose last digit is 5? d) Which four numbers must be factors of all numbers whose last digit is 0?	a) 1 b) 1 and 2 c) 1 and 5 d) 1, 2, 5 and 10
4)	What is the highest common factor of 32 and 52 multiplied by the highest common factor of 12 and 48?	$4 \times 12 = 48$

Factors - Mark Scheme

	Question	Answer	
	Exam Questions		
1) (a)	Write down all the factors of 16.	(a) 1, 2, 4, 8, 16 Any 3 correct All correct factors listed only	(1) (1)
(b)	Write down all the common factors of 16 and 26.	(b) Factors of 26: 1, 2, 13, 26 Common Factors: 1 and 2	(1) (1)
2)	From the list of numbers 3, 5, 7, 9, 11, 15, 24 (a) Write down a factor of 12.	(a) 3	(1)
(b)	Write down a factor of 28.	(b) 7	(1)
(c)	Write down a factor of 81.	(c) 3 or 9	(1)
3)	12 28 64 40 18 100 35 6 38 From the box above, choose two numbers that: (a) Have a common factor of 10.	(a) 40 and 100	(1)
(b)	Have a common factor of 7.	(b) 28 and 35	(1)
4)	Find the highest common factor (HCF) of 54 and 90.	Factors of 54: 1, 2, 3, 6, 9, 18, 27 and 54 Factors of 90: 1, 2, 3, 5, 6, 9, 10, 15, 18, 30, 45 and 90 Any 4 correct factors HCF = 18	(1) (1)

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