Y5/6 Top-up Revision, Unit 1 (56718)

Additional teacher instructions for practice sheets

These notes indicate which practice sheets are most appropriate for which groups.

Day 1 Y5 Factors and multiples Sheet 1
Working towards ARE / Working at ARE / Greater Depth

Day 1 Y6 Factors and multiples Sheet 2
Working towards ARE / Working at ARE / Greater Depth

Day 2 Y5 Prime numbers and square numbers Sheet 1
Working towards ARE / Working at ARE / Greater Depth

Day 2 Y6 Prime numbers and square numbers Sheet 2
Working towards ARE / Working at ARE / Greater Depth

Factors and multiples

Sheet 1

1. List ALL the factors of 12.

2. List ALL the factors of 18.

3. Write two different multiples of 3 and 5.

4. Write two common factors of 18 and 24.

5. 2 3 4 5 8
   Choose a pair of numbers and write a common multiple.
   Repeat three times.

6. 12 15 24 27 30
   Choose two numbers and write a common factor.
   Repeat three times.

7. Write a common multiple of 2, 3 and 4.

8. Write a common factor of 15, 20 and 30.

9. Sometimes / Always / Never? Numbers have an even number of factors.

Challenge

Sophie says, "The bigger a number, the more factors it has." Do you agree with her?

Factors and multiples

Sheet 2

1. List the pairs of factors of 24.
2. Tick the numbers which are common factors of 18 and 24.

   2
   3
   4
   6
   8
   9

3. Write two factors of 40 which are NOT factors of 30.
4. Write a common multiple of 3 and 6 which is NOT a multiple of 12.
5. Write these numbers under the correct headings.

   2 3 4 5 6 8 9 12

Factor of 15	Factor of 16	Multiple of 3

6. Write three common multiples of 2, 3 and 4.
   What is the lowest common multiple?
7. Write three common multiples of 3, 4 and 6.
   What is the lowest common multiple?
8. Write three common factors of 24, 30 and 48.
   What is the highest common factor?
9. If a number has 10 as a factor, what other three factors must it have?
10. If a number has 6 as a factor, what other three factors must it have?

Challenge

Maria says, "Numbers always have a pair of factors, so there aren't any numbers with an odd number of factors."

Do you agree with her?

Prime numbers and square numbers

Sheet 1

Circle the prime number in each set of three numbers.

1. 3, 9, 18
2. 4, 5, 10
3. 7, 9, 12
4. 12, 15, 17
5. 21, 23, 25
6. 31, 33, 35
7. 27, 37, 57
8. 53, 54, 55

Write a square number within each range.

9. 10 to 20
10. 20 to 30
11. 60 to 70
12. 80 to 90

Challenge

How many 2-digit prime numbers have digits with a total of 10?

Prime numbers and square numbers

Sheet 2

1. **27, 31, 42**

   Circle the prime number.
   Explain how you know that the other two numbers are not prime.

2. **37, 57, 77**

   Circle the prime number.
   Explain how you know that the other two numbers are not prime.

3. A square number and a prime number have a total of 27.
   What could the two numbers be? Are there any other possible pairs?

4. A square number and a prime number have a total of 41.
   What could the two numbers be? Are there any other possible pairs?

5. List the prime numbers between 30 and 40.

6. List the prime numbers between 50 and 60.

7. List the square numbers between 50 and 100.

8. List the odd square numbers less than 100.

Challenge

13 and 31 are prime numbers. Find other pairs of prime numbers with reversed digits.

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Answers

Day 1 Y5 Factors and multiples Sheet 1

1. Factors of 12 — 1, 12 2, 6 3, 4
2. Factors of 18 — 1, 18 2, 9 3, 6
3. Two multiples of 3 and 5 — e.g. 15, 30, 45, 60...
4. Two common factors of 18 and 24 — e.g. 2, 3, 6
5. 2 3 4 5 8 common multiples

   Answers from: 2 and 3 — e.g. 6, 12, 18, 24...
   - 2 and 4 — e.g. 8, 12, 16, 20, 24...
   - 2 and 5 — e.g. 10, 20, 30, 40, 50...
   - 2 and 8 — e.g. 8, 16, 24, 32, 40...
   - 3 and 4 — e.g. 12, 24, 36, 48...
   - 3 and 5 — e.g. 15, 30, 45, 60...
   - 3 and 8 — e.g. 24, 48, 72, 96...
   - 4 and 5 — e.g. 20, 40, 60...
   - 4 and 8 — e.g. 8, 16, 24, 32...
   - 5 and 8 — e.g. 40, 80, 120...
6. 12 15 24 27 30 common factors

   Answers from:
   - 12 and 15 — 1 and 3
   - 12 and 24 — 1, 2, 4, 6, 12
   - 12 and 27 — 1 and 3
   - 12 and 30 — 1, 2, 3, 6
   - 15 and 24 — 1 and 3
   - 15 and 27 — 1 and 3
   - 15 and 30 — 1, 3, 5 and 15
   - 24 and 27 — 1 and 3
   - 24 and 30 — 1, 2, 3 and 6
   - 27 and 30 — 1 and 3
7. Common multiple of 2, 3 & 4 — e.g. 12, 24, 36...
8. Common factor of 15, 20 & 30 — 5
9. Sometimes. The square factors have an odd number of factors, e.g. 36: 1, 36; 2, 18; 3, 12; 4, 9; 6.

Challenge

No, we don't agree with Sophie. Some large numbers do have a lot of factors, e.g. 80 has 10 factors and 96 has 12 factors, but 97, larger than 80 and 96, has just two factors: 1 and 97.

Day 1 Y6 Factors and multiples Sheet 2

1. Pairs of factors of 24 — 1, 24 2, 12 3, 8 4, 6
2. Common factors of 18 and 24 ticked — 2, 3 and 6
3. Factors of 40 but not of 30 — 4 and 8
4. Common multiple of 3 and 6 but not of 12 — e.g. 18, 30, 42
5.

Factor of 15	Factor of 16	Multiple of 3
3, 5	2, 4, 8	6, 9, 12

Top-up Revision

Answers

Day 1 Y6 Factors and multiples Sheet 2 continued

6. Common multiples of 2, 3, 4 — 12 (lowest), 24, 48, 60...
7. Common multiples of 3, 4, 6 — 12 (lowest), 24, 36, 48...
8. Common factors of 24, 30, 48 — 2 (lowest), 3, 6
9. If a number has 10 as a factor it also has 1, 2 and 5
10. If a number has 6 as a factor it also has 1, 2 and 3

Challenge

Maria is wrong - some numbers do have an odd number of factors: the square numbers, e.g. 4: 1, 4, 2; 16: 1,16, 2, 8, 4 ; 25: 1, 25, 5.

Day 2 Y5 Prime numbers and square numbers Sheet 1

Numbers circled:

1. 3
2. 5
3. 7
4. 17
5. 23
6. 31
7. 37
8. 53

Square numbers:

9. 16
10. 25
11. 64
12. 81

Challenge

2-digit prime numbers with a total of 10: 19, 37, 73

Day 2 Y6 Prime numbers and square numbers Sheet 2

1. 31 is the prime number. 27 and 42 are not prime as they can be divided by numbers other than 1 and themselves.
2. 37 is the prime number. 57 and 77 are not prime as they can be divided by numbers other than 1 and themselves.
3. Prime number + square number = 27, e.g. 23 + 4, 11 + 16 and 2 + 25
4. Prime number + square number = 41, e.g. 37 + 4 and 5 + 36
5. Prime numbers between 30 and 40: 31, 37
6. Prime numbers between 50 and 60: 53, 59
7. Square numbers between 50 and 100: 49, 64, 81
8. Odd square numbers less than 100: 1, 9, 25, 49, 81

Challenge

Pairs of prime numbers with reversed digits: 17 and 71, 37 and 73, 79 and 97.