11+ Maths: Arithmetic Practice

Work through every question. Show working in the space under each item. You may not use a calculator. Write answers clearly. If a question has more than one part, answer all parts.

Suggested time: 25 minutes · **Questions:** 25

1. Work out 47 + 86.

[1]

2. Work out 305 − 178.

[1]

3. Work out 24 × 15.

[1]

4. Work out 432 ÷ 12.

[1]

5. Find the value of $3^2 + 4^2$.

[1]

6. Find the value of $2^3 \times 5$.

[1]

7. What is 1000 − 247?

[1]

8. Work out 8 × 7 + 6.

[1]

9. Work out (18 + 6) ÷ 3.

[1]

10. Work out 9 × 12 − 15.

[1]

11. List the prime numbers between 20 and 30.

[1]

12. Find the highest common factor (HCF) of 18 and 24.

[1]

13. Find the lowest common multiple (LCM) of 6 and 8.

[1]

14. Round 4.76 to 1 decimal place.

[1]

15. Work out 2.5 × 8.

[1]

16. Work out −7 + 12.

[1]

17. Work out 15 − (−8).

[1]

18. Work out 3.6 ÷ 0.4.

[1]

19. Find 5/8 of 64.

[1]

20. Add 2 hours 35 minutes and 1 hour 40 minutes.

[1]

21. What is the next square number after 81?

[1]

22. Write 48 as a product of prime factors.

[1]

23. A number is multiplied by 7 and then 9 is subtracted. The result is 54. What was the number?

[1]

24. What is 0.07 as a fraction in its simplest form?

[1]

25. Work out 1.25 + 0.8 + 0.05.

[1]

Answers and short explanations

Check your work only after you have finished. Equivalent wording is accepted where the meaning is the same.

1. **Answer:** 133
   Why: 47 + 86: 7 + 6 = 13, write 3 carry 1; 4 + 8 + 1 = 13.

2. **Answer:** 127
   Why: 305 − 178: 5 cannot take 8 so borrow; 15 − 8 = 7, 9 − 7 = 2, 2 − 1 = 1, giving 127.

3. **Answer:** 360
   Why: 24 × 10 = 240 and 24 × 5 = 120. 240 + 120 = 360.

4. **Answer:** 36
   Why: 12 × 36 = 432, so 432 ÷ 12 = 36.

5. **Answer:** 25
   Why: $3^2 = 9$ and $4^2 = 16$. 9 + 16 = 25.

6. **Answer:** 40
   Why: $2^3 = 8$. 8 × 5 = 40.

7. **Answer:** 753
   Why: 1000 − 247 = 753.

8. **Answer:** 62
   Why: BIDMAS: multiply first. 8 × 7 = 56, then 56 + 6 = 62.

9. **Answer:** 8
   Why: Brackets first: 18 + 6 = 24. 24 ÷ 3 = 8.

10. **Answer:** 93
    Why: 9 × 12 = 108. 108 − 15 = 93.

11. **Answer:** 23 and 29
    Why: 21, 25 and 27 are not prime. 23 and 29 have no factors other than 1 and themselves.

12. **Answer:** 6
    Why: Factors of 18: 1, 2, 3, 6, 9, 18. Factors of 24: 1, 2, 3, 4, 6, 8, 12, 24. The greatest shared factor is 6.

13. **Answer:** 24
    Why: Multiples of 6: 6, 12, 18, 24… Multiples of 8: 8, 16, 24… First common multiple is 24.

14. **Answer:** 4.8
    Why: The second decimal digit is 6, which is 5 or more, so 4.7 rounds up to 4.8.

15. **Answer:** 20
    Why: 2 × 8 = 16 and 0.5 × 8 = 4. 16 + 4 = 20.

16. **Answer:** 5
    Why: Starting at −7 and adding 12 lands on 5.

17. **Answer:** 23
    Why: Subtracting a negative is adding: 15 + 8 = 23.

18. **Answer:** 9
    Why: Both numbers × 10: 36 ÷ 4 = 9.

19. **Answer:** 40
    Why: 64 ÷ 8 = 8, then 8 × 5 = 40.

20. **Answer:** 4 hours 15 minutes

Why: 35 + 40 = 75 minutes = 1 hour 15 minutes. Hours: 2 + 1 + 1 = 4 hours.

21. **Answer:** 100

Why: $81 = 9^2$. The next integer is 10, and $10^2 = 100$.

22. **Answer:** $2^4 \times 3$ (or $2 \times 2 \times 2 \times 2 \times 3$)

Why: $48 = 2 \times 24 = 2 \times 2 \times 12 = 2 \times 2 \times 2 \times 6 = 2 \times 2 \times 2 \times 2 \times 3$.

23. **Answer:** 9

Why: Work backwards: 54 + 9 = 63, then 63 ÷ 7 = 9.

24. **Answer:** 7/100

Why: 0.07 means 7 hundredths, which is already in simplest form.

25. **Answer:** 2.1

Why: 1.25 + 0.8 = 2.05, then 2.05 + 0.05 = 2.10 = 2.1.
