



Test 1

There are **7 questions** in this test. Give yourself **10 minutes** to answer them all.
You may **not** use a calculator for this test.



1. What is the value of $(-7)^2$? Circle your answer.

-14

14

-49

49

[1]

2. Which of the fractions below is the smallest? Circle your answer.

 $\frac{5}{4}$ $\frac{11}{12}$ $\frac{7}{8}$ $\frac{5}{6}$

[1]

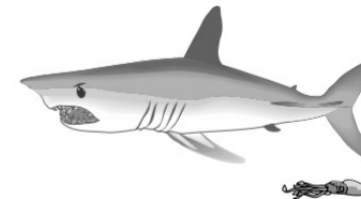
3. Round 19.0563 to three significant figures.

.....
[1]

4. Work out $\frac{7}{10} + \frac{8}{15}$. Give your answer as a mixed number in its simplest form.

.....
[2]

5. The shark shown measures 2.4 m in length. Use the scale drawing on the right to estimate the length of the squid in metres.



..... m
[2]

6. As products of prime factors, $A = 2 \times 3^3 \times 7^2$ and $B = 3^2 \times 7^3 \times 11$. Find the lowest common multiple of A and B , giving your answer using index notation.

.....
[2]

7. Jamila is going to the cinema. Adult tickets cost £7.50 each and children's tickets cost £4.50 each. Popcorn costs £1.40 per tub. She buys 3 adult tickets and 4 children's tickets, and has £50 to spend in total. What is the largest possible number of tubs of popcorn she can buy?

.....
[3]

Test 1 — Pages 2–3

1. 49 [1 mark]
2. $\frac{5}{4} = \frac{30}{24}$, $\frac{11}{12} = \frac{22}{24}$, $\frac{7}{8} = \frac{21}{24}$
and $\frac{5}{6} = \frac{20}{24}$, so $\frac{5}{6}$ is the smallest
[1 mark]
3. 19.1 (3 s.f.) [1 mark]
4. $\frac{7}{10} + \frac{8}{15} = \frac{21}{30} + \frac{16}{30} = \frac{37}{30} = 1\frac{7}{30}$
[1 mark for putting the fractions
over a common denominator,
1 mark for the correct answer]
5. The shark is approximately 4 times
the length of the squid [1 mark],
so an estimate for the length of the
squid is $2.4 \div 4 = 0.6$ m [1 mark].
6. Take the highest power of each
number from A or B . So that's 2
(from A), 3^3 (from A), 7^3 (from B)
and 11 (from B). Then the LCM is
 $2 \times 3^3 \times 7^3 \times 11$.
[2 marks for the correct answer,
otherwise 1 mark for two or three
terms correct in the product]
7. 3 adult tickets cost: $3 \times £7.50$
 $= £22.50$ and 4 children's tickets cost
 $4 \times £4.50 = £18$ [1 mark for both].
She spends $£22.50 + £18 = £40.50$
on tickets, so has $£50 - £40.50 =$
 $£9.50$ to spend on popcorn [1 mark].
 $6 \times £1.40 = £8.40$ and $7 \times £1.40$
 $= £9.80$, so the largest possible
number of tubs of popcorn she can
buy is 6 [1 mark].