Practice questions

Try these questions all based on Number. The numerical answers are at the end of the handout to help you check your work.

Don't use a calculator!

The questions marked with * are *challenging*.

1) Which of the following numbers are prime numbers?

   1, 2, 7, 11, 21, 17, 31, 51, 90

2) James spends £7.50 on a nice pizza along with a large glass of red wine at £2.80 and a healthy side salad for £1.75. How much change does he get from a £20 note?

3) What is 23×47 ?

4) What is 2.3×4.7 ?

5) Calculate $1760 \div 8$

6) Harjit can type at 40 words per minute. He has to type a 2 300 word essay. How many minutes to the nearest minute will it take to type?

7) A novel has 10 words per line of type. There are 40 lines per page and the novel is 230 pages long. How many words are in the novel?

8) 5 miles is the same as 8 kilometres roughly. Nicole drives 72 kilometres, and Papa likes to work in miles. How many *miles* did Nicole drive?
   Hint: How many lots of 8 km in 72 km?

9) 5 litres is the same as 8 pints. The rugby team work their way though 120 pints of beer in a session. How many litres did they (collectively) consume?

10) List the first 10 prime numbers

11) Find the *prime factors* of 120.
    Hint: divide by 2 until you get an odd number, then try 3 and so on….

12) What is $0.5 + \dfrac{1}{4}$?

13) What is the highest common factor (HCF) of 15 and 10?
    Hint: factors are smaller or equal

14) What is the lowest common multiple (LCM) of 8 and 12 ?
    Hint: multiples are equal or larger

15) Find 10% of £740

16) Find 15% of £290

17) Find 27% of £14 500

18) Nigel gets a 6% pay rise. If his salary was £18 500 before the pay rise, what is his new salary?

19) Cuthbert earns £9.50 per hour for a 35-hour week. He works for 30 weeks. How much has he earned in the 30 week period?

20) A new ECG machine will cost around £5 700 plus VAT at 17.5%. Calculate the total purchase cost of the ECG machine including the VAT

21) Algernon and Ethel have bought a new three-piece suite for £900 on hire purchase.

    a) The deposit is 20%: how much is that?

    The remainder is a loan at a simple interest rate of 15%.

    b) Calculate the amount to be paid back

    c) The amount to be paid back is paid in 12 equal instalments. How much is each instalment?

22) A unit of electricity costs 7p. The 'standing charge' for a 13-week period is £15.

    You check your bill and find that you have used 2 500 units in the 13 week period.

    Calculate the cost of your bill

23) What is $\dfrac{1}{2} \times \dfrac{3}{4}$?

24) Find $2\dfrac{1}{2} \times 5\dfrac{1}{4}$

25) Calculate 127×256

*26) A coat is marked as 'one third off' in a sale. If the coat costs £60 in the sale how much did it cost before the sale started?

27) Find 32% of £950

28) What is a fifth of £200?

29) Find 15% of £34.15

30) Siobhan decides to buy a new bedroom suite. The total cost comes to £1 500 (her tastes tend towards the luxuriant). The hire purchase deal requires a 25% deposit. The balance has interest

charged at 15%. Siobhan decides to pay back the loan in 10 equal instalments.

How much is each instalment?

31) Divide £300 in the ratio 2:3

32) You need 27 pounds of cooked rice. If raw rice is mixed with water in the ratio 1:2, how many of pounds of rice do you need to buy?

33) Ethelred bought a car for £5 000 and sold it one year later for £4 000.

a) What was the loss on the deal

b) Express this loss as a percentage of the buying cost of the car

34) A bursary is available to a student if the student has earned more than £6 000 in the previous 35 weeks.

Eric Bloodaxe has worked for 32 hours a week for 35 weeks at a rate of £6.50 per hour.

Will Eric qualify for a bursary? Support your answer with calculations.

*35) Jim is a stand-up comedian. He charges a basic fee for an appearance but adds an extra 10% danger money if asked to appear in a Sutton pub.

Jim performs at the Royal one night and charges a total of £880. How much is his *usual* fee?

36) What is 25% of £97?

37) VAT is charged at 17.5%. A scientific calculator costs £6 before VAT, how much will the calculator cost when VAT is added?

38) Work out $\dfrac{1}{3} + \dfrac{1}{4}$

39) What is $\dfrac{1}{2} + 1\dfrac{1}{4} - \dfrac{3}{4}$?
Hint: work out the addition first then take off the three-quarters

40) Sian earns £12 500. She has a pay rise of 5%. Calculate her new pay.

41) Find three quarters of twenty-four.

42) Divide £90 in the ratio 4:5

43) Find $0.75 + \dfrac{1}{2}$

44) Which is the smallest of the following numbers

0.15,   0.015,   0.115,   1.5

45) Mike and Keith decide to split the slush fund (don't ask) in the ratio 4:3. Keith ends up with £60. How much does Mike receive?

46) John used to pay £45 a week rent, but now he pays £60. Express the rise in rent as a percentage of his *original* rent.

47) Convert 3.75 to a fraction in its lowest terms

48) Convert $2\dfrac{4}{5}$ to a decimal

49) What is $\dfrac{7}{8}$ as a decimal?

50) Work out $2\dfrac{1}{2} \div 1\dfrac{1}{3}$

Answers

1) 2, 7, 11, 17, 31 2) £7.95 3) 1081 4) 10.81 5) 220
6) 58 min 7) 92000 8) 45 miles 9) 75li
10) 2, 3, 5, 7, 11, 13, 17, 19, 23, 29 11) $2^3 \times 3 \times 5$

12) 0.75 or $\dfrac{3}{4}$ 13) 5 14) 24 15) £74 16) £43.50

17) £3915 18) 19610 19) £9975 20) £6697.50

21) a) £180 b) £828 c) £69 22) £190 23) $\dfrac{3}{8}$

24) $13\dfrac{1}{8}$ 25) 32512 26) £90 27) £304 28) £40

29) £5.12 30) £129.38 31) £120 and £180 32) 9lb
33) a) £1000 b) 20% 34) £7280 total pay so yes

35) £800 36) £24.25 37) £7.05 38) $\dfrac{7}{12}$ 39) 1 (no fraction)

40) £13125 41) Eighteen (not this style on test)

42) 40:50 43) 1.25 or $1\dfrac{1}{4}$ 44) 0.015 45) £80

46) $33\dfrac{1}{3}\%$ 47) $3\dfrac{3}{4}$ 48) 2.8 49) 0.875 50) $1\dfrac{7}{8}$