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PERCENTAGES



Practice calculating percentages of numbers

Percentages that are Multiples of 10

Calculate the following percentages in your head and write the answer in your book.

- | | | | | | |
|---|---------------|----|---------------|----|---------------|
| 1 | 10% of 7782 = | 6 | 10% of 2028 = | 11 | 10% of 2408 = |
| 2 | 10% of 3280 = | 7 | 10% of 387 = | 12 | 10% of 3493 = |
| 3 | 10% of 9970 = | 8 | 10% of 7408 = | 13 | 10% of 7777 = |
| 4 | 10% of 5052 = | 9 | 10% of 7088 = | 14 | 10% of 1468 = |
| 5 | 10% of 1446 = | 10 | 10% of 9387 = | 15 | 10% of 9377 = |

Calculate the following percentages in your head by finding 10% and then doubling it.

- | | | | | | |
|----|--------------|----|--------------|----|--------------|
| 16 | 20% of 145 = | 21 | 20% of 804 = | 26 | 20% of 754 = |
| 17 | 20% of 296 = | 22 | 20% of 344 = | 27 | 20% of 70 = |
| 18 | 20% of 868 = | 23 | 20% of 974 = | 28 | 20% of 675 = |
| 19 | 20% of 125 = | 24 | 20% of 750 = | 29 | 20% of 447 = |
| 20 | 20% of 195 = | 25 | 20% of 231 = | 30 | 20% of 799 = |

Calculate the following percentages in your head by finding 10% and then trebling it. ($\times 3$)

- | | | | | | |
|----|--------------|----|--------------|----|--------------|
| 31 | 30% of 695 = | 36 | 30% of 751 = | 41 | 30% of 837 = |
| 32 | 30% of 372 = | 37 | 30% of 337 = | 42 | 30% of 314 = |
| 33 | 30% of 253 = | 38 | 30% of 862 = | 43 | 30% of 155 = |
| 34 | 30% of 372 = | 39 | 30% of 492 = | 44 | 30% of 327 = |
| 35 | 30% of 812 = | 40 | 30% of 645 = | 45 | 30% of 947 = |

Calculate the following percentages in your head by finding 10% and then quadrupling it. ($\times 4$)

- | | | | | | |
|----|--------------|----|--------------|----|--------------|
| 46 | 40% of 332 = | 49 | 40% of 569 = | 52 | 40% of 185 = |
| 47 | 40% of 135 = | 50 | 40% of 403 = | 53 | 40% of 335 = |
| 48 | 40% of 713 = | 51 | 40% of 147 = | 54 | 40% of 469 = |

Use the technique you have already used to calculate the answers to following:

- | | | | | | |
|----|----------------|----|---------------|----|----------------|
| 1 | 90 % of 857 = | 16 | 50 % of 441 = | 31 | 20 % of 463 = |
| 2 | 50 % of 330 = | 17 | 40 % of 820 = | 32 | 10 % of 692 = |
| 3 | 80 % of 426 = | 18 | 40 % of 932 = | 33 | 70 % of 839 = |
| 4 | 60 % of 973 = | 19 | 10 % of 859 = | 34 | 20 % of 892 = |
| 5 | 70 % of 564 = | 20 | 90 % of 86 = | 35 | 100 % of 531 = |
| 6 | 10 % of 237 = | 21 | 50 % of 879 = | 36 | 90 % of 504 = |
| 7 | 30 % of 50 = | 22 | 40 % of 978 = | 37 | 50 % of 316 = |
| 8 | 100 % of 170 = | 23 | 80 % of 777 = | 38 | 50 % of 988 = |
| 9 | 20 % of 25 = | 24 | 90 % of 395 = | 39 | 80 % of 833 = |
| 10 | 40 % of 754 = | 25 | 80 % of 438 = | 40 | 30 % of 458 = |
| 11 | 90 % of 710 = | 26 | 30 % of 993 = | 41 | 20 % of 871 = |
| 12 | 30 % of 312 = | 27 | 10 % of 574 = | 42 | 100 % of 440 = |
| 13 | 60 % of 775 = | 28 | 30 % of 859 = | 43 | 100 % of 995 = |
| 14 | 40 % of 230 = | 29 | 70 % of 994 = | 44 | 70 % of 755 = |
| 15 | 10 % of 243 = | 30 | 60 % of 587 = | 45 | 60 % of 348 = |

46. Jean and John save up for a car that costs £12,975. John has promised to put in 30% of the cost of the car, provided that Jean can contribute the rest.

a) How much is John's contribution?

b) How much is Jean's contribution?

47. A charity are trying to raise £15,000 to buy a new roof for their church. So far, they have raised 40% of what is needed.

a) How much have they raised so far?

b) How much more do they need to raise?

48. Alan gets paid £32,000 per year. His boss decides he has earned a pay rise and awards him 10%. How much does Alan now get paid?

Calculating more precise percentages

$$\text{Amount} = \frac{\text{Percentage}}{100} \times \text{Original Amount}$$

eg: What is 24% of £31.58?

$$\begin{aligned} \text{Amount} &= \frac{\text{Percentage}}{100} \times \text{Original Amount} \\ &= \frac{24}{100} \times 31.58 \\ &= \frac{757.92}{100} \\ &= £7.5792 \\ &= £7.58 \end{aligned}$$

1. What is 24% of £26.94?
2. What is 48% of £54.93?
3. What is 36% of £73.63?
4. What is 43% of £6.93?
8. What is 96% of £57.89?
9. What is 24% of £53.66?
10. What is 19% of £58.32?
14. What is 43% of £541.78?
15. What is 95% of £390.92?
5. What is 95% of £3.63?
6. What is 43% of £4.65?
7. What is 29% of £73.67?
11. What is 9% of £158.39?
12. What is 39% of £243.95?
13. What is 24% of £743.01?
16. What is 49% of £193.90?
17. What is 69% of £235.99?

Percentages add up to 100.

If John and Judy are paying for something, their total percentage needs to add up to 100. Calculate how much Judy pays if John pays the percentage given:

- | | |
|--------|--------|
| 1. 50% | 5. 80% |
| 2. 75% | 6. 52% |
| 3. 40% | 7. 71% |
| 4. 70% | 8. 44% |

