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## correctDP

6. write decimal correct to 3 d.p.
5. write decimal correct to 2 d.p.
4. write £ correct to the nearest penny
2. write a decimal correct to 1 d.p.
1. **scaffold to** write a decimal correct to 1 d.p. **scaffold is** given LB (lower bound) and clue for which digit is the decider

## decimalFraction

10. **scaffold to** shade in e.g.  $1 + \frac{2}{10} + \frac{3}{100}$  and write as decimal and percentage or similar to convert decimal to percentage or v.v. **scaffold is** diagram with key for 1, 0.1 and 0.01
9. write e.g. 0.9 {1 d.p.} as percentage or percentage e.g. 210 % as decimal {1 d.p.}
8. **scaffold to** write e.g. 0.9 {1 d.p.} as percentage or percentage e.g. 210 % as decimal {1 d.p.} **scaffold is** proportional triangle
7. write 0.03 as a % or 3 % as a decimal
5. write decimal {2 d.p.} as percentage OR suitable % as a decimal {gives decimal to 2 d.p.}
4. **scaffold to** write e.g. 0.23 {2 d.p.} as percentage or a percentage as decimal {2 d.p.} **scaffold is** proportional triangle
3. **scaffold to** write e.g. 0.23 or 0.2 or 0.03 as a percentage or fraction {simplify not needed} **scaffold is** diagram with key for 1, 0.1 and 0.01
2. write  $\frac{F}{100}$  as a percentage or v.v. {simplify not needed}
1. write down the (i) fraction (ii) percentage shaded of a 100 square {simplify not needed}

## decimalXdiv

16. work out e.g.  $15480 \div 4.3$  using  $3.6 \times 43 = 154.8$
15. work out e.g.  $2.8 \div 4$  or  $2.8 \div 40$  or  $0.28 \div 4$  or  $0.028 \div 4$
14. work out e.g.  $2.8 \div 0.5$
13. work out e.g.  $28 \div 0.4$  or  $28 \div 0.04$  or  $280 \div 0.4$  or  $2800 \div 0.4$
12. work out e.g.  $2.8 \div 0.4$
11. work out e.g.  $36 \times 0.43$  using  $3.6 \times 43 = 154.8$
10. work out e.g.  $0.3 \times 0.4$  or  $0.3 \times 0.04$
9. work out e.g.  $3 \times 0.04$
8. work out e.g.  $3 \times 0.4$
7. **scaffold to** work out  $7 \times 0.6$  or  $0.7 \times 6$  **scaffold is** told  $7 \times 6 = 42$

## estimateSIGfig

9. write  $0 \leq n < 1$  to 2 or 3 significant figures
8. write  $n > 1$  to 2 or 3 significant figures
7. write  $0 \leq n < 1$  to 1 significant figure
6. write  $10 < n < 20$  {i.e. teen} correct to 1 significant figure
5. estimate e.g.  $25.2 \times 62$  {TO/O  $\times$  HTO/TO}
4. write  $1 \leq n < 10$  and  $n > 20$  correct to 1 significant figure **scaffold is** given LB (lower bound) and clue re which digit is decider

## fractionADDsub

13. mixed fraction  $\pm$  mixed fraction {harder e.g.  $3 - \frac{7}{12}$  or  $3 + \frac{7}{6}$ }
11. mixed fraction  $\pm$  mixed fraction {easier}
10. work out  $\frac{n_1}{d_1} \pm \frac{n_2}{d_2}$  {simplify IS required}
9. work out  $\frac{n_1}{d_1} \pm \frac{n_2}{d_2}$  {simplify NOT required}
8. work out  $\frac{n_1}{d} \pm \frac{n_2}{kd}$  {simplify IS required}
7. **scaffold to** work out  $\frac{n_1}{d} \pm \frac{n_2}{kd}$  in simplest form **scaffold is** fraction line with suitable labels
6. **scaffold to** work out  $\frac{n_1}{d_1} \pm \frac{n_2}{d_2}$  {simplify NOT required} **scaffold is** fraction line
5. work out  $\frac{n_1}{d} \pm \frac{n_2}{kd}$  {simplify NOT required}
4. **scaffold to** work out  $\frac{n_1}{d} + \frac{n_2}{kd}$  {simplify NOT required} **scaffold is** fraction line
3. work out  $\frac{n_1}{d} \pm \frac{n_2}{d}$  {simplify NOT required}
1. **scaffold to** work out  $\frac{n_1}{d} \pm \frac{n_2}{d}$  **scaffold is** incompletely labelled fraction line

## fractionINTRO

12. write probability shown on probability line as a fraction
11. complete improper and proper fractions on number line
10. complete e.g.  $\frac{3}{4} = \frac{\quad}{8}$  or  $\frac{\quad}{12}$  or  $\frac{\quad}{16}$  or  $\frac{\quad}{20}$  or  $\frac{\quad}{40}$
9. **scaffold to** complete e.g.  $\frac{3}{4} = \frac{\quad}{8}$  or  $\frac{\quad}{12}$  or  $\frac{\quad}{16}$  **scaffold is** square dotted paper
7. **scaffold to** find equivalent fractions and state which fraction is in simplest form **scaffold is** shade in  $\frac{n}{d}$  of e.g.  $3 \times d$  rectangle to find  $\frac{?}{3d}$
6. **scaffold to** find equivalent fractions **scaffold is** number line labelled in e.g.  $\frac{1}{3}$ s and  $\frac{1}{12}$ s
5. know:  $1/4 = 25\%$  and  $1/2 = 50\% = 2/4$  and  $3/4 = 75\%$
4. complete labels on number line e.g.  $\frac{0}{5}$  to  $\frac{5}{5}$  and  $\frac{0}{6}$  to  $\frac{6}{6}$  and say which is largest  $\frac{1}{5}$  or  $\frac{1}{6}$
3. what fraction of picture is shaded {simplify NOT required}
2. shade in  $\frac{n}{d}$  of a rectangle with d squares {n > 1}
1. shade in  $\frac{1}{d}$  of a rectangle with d squares

## fractionOF

17. different ways to write half of e.g.  $\frac{TO}{2}$  or  $0.5 \times TO$  or  $TO \times 0.5$  or  $\frac{1}{2}$  of TO {T even}
16. work out  $\frac{n}{d}$  of ... {where  $3 \leq d \leq 10$  and  $n \geq 2$  e.g.  $\frac{2}{5}$  of 35}
14. work out half of TO {where T is odd and O is even e.g. 76}
13. **scaffold to** work out half of 30, 50, 70 or 90 **scaffold is** half of 10 + half of ...
12. work out half of ... {answer is 6 to 9}
11. work out  $\frac{1}{d}$  of ... { $3 \leq d \leq 10$  e.g.  $\frac{1}{5}$  of 35}
10. **scaffold to** work out  $\frac{1}{d}$  of ... { $3 \leq d \leq 6$ } **scaffold is** sharing into boxes
8. work out half of TO {both digits are even e.g. 46}
7. **scaffold to** work out half of TO {both digits are even e.g. 46} **scaffold is** partitioning
6. work out half of TO {20, 40, 60, 80, 100}
5. **scaffold to** work out half of {20, 40, 60, 80, 100} **scaffold is** hint half of {2, 4, 6, 8, 10}
4. work out half of ... {answer is 2 to 5}
3. **scaffold to** work out half of ... {answer is 1 to 5} **scaffold is** e.g. blank butterfly
2. **scaffold to** work out half of ... {answer is 6 to 9} **scaffold is** example picture
1. **scaffold to** work out half of ... {answer 1 to 5} **scaffold is** e.g. spots on butterfly

## fractionXdiv

10. mixed fraction  $\times$  mixed fraction
8. fraction  $\div$  fraction {simplify IS required}
7. fraction  $\times$  fraction {simplify IS required}
6. fraction  $\div$  fraction {simplify NOT required}
2. fraction  $\times$  fraction {simplify NOT required}

moreIndex

14. given e.g.  $2^9 \times 2^x = 2^4$  or  $2^4 \div 2^x = 2^9$  write down the value of  $x$
13. evaluate  $n^{\pm\frac{2}{3}}$  or  $n^{\pm\frac{3}{2}}$  or  $\left(\frac{n}{d}\right)^{\pm\frac{2}{3}}$  or  $\left(\frac{n}{d}\right)^{\pm\frac{3}{2}}$
12. evaluate  $n^{\pm\frac{1}{2}}$  or  $n^{\pm\frac{1}{3}}$  or  $\left(\frac{n}{d}\right)^{\pm\frac{1}{2}}$  or  $\left(\frac{n}{d}\right)^{\pm\frac{1}{3}}$
11. given e.g.  $2^4 \times 2^x = 2^9$  or  $2^9 \div 2^x = 2^4$  write down the value of  $x$
10. given e.g.  $2^x = \frac{1}{16}$  write down the value of  $x$
9. work out the value of e.g.  $\left(\frac{4}{9}\right)^{-2}$
8. write down the value of e.g.  $\left(\frac{16}{9}\right)^{\frac{1}{2}}$  {numerator and denominator are square numbers}
7. write down the value of e.g.  $49^{\frac{1}{2}}$  { $9^{\frac{1}{2}}$ ,  $16^{\frac{1}{2}}$ , ...  $144^{\frac{1}{2}}$ }
6. write down the value of e.g.  $7^{-2}$  or  $3^{-3}$  {only  $1^{-2}$  to  $10^{-2}$  and  $1^{-3}$  to  $5^{-3}$ }
5. write down the value of e.g.  $6^0$  and  $\left(\frac{16}{9}\right)^0$
4. work out the value of e.g.  $\left(\frac{4}{9}\right)^{-1}$  or the reciprocal of  $\frac{4}{9}$
3. write down the value of e.g.  $100^{\frac{1}{2}}$  {only 9, 16, 25 or 100}
2. work out the value of e.g.  $6^{-1}$  or the reciprocal of 6
1. work out value of e.g.  $6^1$  and  $\left(\frac{16}{9}\right)^1$

numberDIV10etc

14. work out e.g.  $HT0 \div 100$  or  $1000$  {delete trailing 0s}
12. work out e.g.  $TU.th \div 10$  or  $100$  or  $1000$  {add leading 0s}
10. work out {as complex as}  $TTh\ Th\ HTO \div 100$  or  $1000$  {NO decimal point, no need to add leading or remove trailing 0s}
9. work out {as complex as}  $TTh\ Th\ HTO.th \div 100$  or  $1000$  {no need to add leading or remove training 0s}
8. work out {as complex as}  $Th\ HTO \div 10$  {NO decimal point, no need to add leading or remove training 0s}
6. work out {as complex as}  $HTO.th \div 10$  {no need to add leading or remove trailling 0s}
5. **scaffold to** work out {as complex as}  $HTO.th \div 10$  **scaffold is** place value grid {no need to add leading or remove training 0s}
4. work out  $T0$  or  $HT0$  or  $Th\ HTO \div 10$
3. **scaffold to** work out  $HT0$  or  $Th\ HTO \div 10$  **scaffold is** place value grid
2. work out  $T0 \div 10$
1. **scaffold to** work out  $T0 \div 10$  **scaffold is** fingers to count in 10s

orderFDP

9. which is larger e.g.  $\frac{4}{5}$  or  $79\%$  ? {NO simplify required to convert the fraction to a percentage}
7. order list of decimals {mix of 1.d.p. 2 d.p. and 3 d.p.}
6. order list of decimals {mix of 1.d.p. and 2 d.p.}
4. write the value of e.g. 2 or 3 in 4.23
3. **scaffold to** write the value of e.g. 2 or 3 in 4.23 **scaffold is** place value grid
2. order list of decimals e.g. 0.002, 0.02, 0.2 {only one digit  $\neq 0$ }
1. order list of decimals e.g. 0.1, 0.3, 0.5 {i.e. all with 1 d.p.} or e.g. 0.12, 0.23, 0.42 {i.e. all with 2 d.p.} etc

percentOF

8. work out  $1\%$  or  $2\%$  or  $2.5\%$  or  $40\%$  or  $80\%$  of e.g. £250
7. work out  $15\%$  or  $30\%$  of e.g. £17.40
6. work out  $5\%$  or  $20\%$  of e.g. £17.40
5. work out  $75\%$  of e.g. £17.40
4. work out  $10\%$  of e.g. £17.40
3. work out  $25\%$  of e.g. £17.40
2. work out  $50\%$  of e.g. £1436 {some digits are odd}
1. work out  $50\%$  of e.g. £426 {every digit is even}

ratio

10. convert one ratio share to a percentage

9. given As SHARE and ratio of A : B what is Bs share

8. e.g. given TOTAL is split in ratio 2 : 3 : 4 how much each or how much for 1 person

7. e.g. given TOTAL is split in ratio 2 : 3 how much MORE or LESS 1 person gets than another

6. given fraction write a ratio A : B

5. share TOTAL in ratio e.g. 2 : 3

4. given ratio A : B find fraction of (A) or given ratio A : B : C find fraction of e.g. A

2. **scaffold to** share TOTAL in ratio e.g. 2 : 3 **scaffold is** empty labelled boxes

1. **scaffold to** share TOTAL in ratio e.g. 2 : 3 **scaffold is** example and empty labelled boxes

simplestForm

5. write fraction in simplest form {need to  $\div$  3 once and/or  $\div$  2 or 5 more than once}

4. write fraction in simplest form {need to  $\div$  5 or 9 once or  $\div$  2 more than once}

3. write fraction in simplest form {only  $\div$  2 or  $\div$  10 once}

2. **scaffold to** write fraction in simplest form **scaffold is** given incomplete prime factor tree and hint to write numerator and denominator as product of prime factors

1. **scaffold to** write fraction in simplest form **scaffold is** given numerator and denominator as product of prime factors

standardForm

12. work out e.g.  $(2.8 \times 10^4) \div (1.4 \times 10^{-1})$  giving answer in standard form

10. work out e.g.  $3 \times 10^4 \times 6 \times 10^3$  giving answer in standard form

9. write e.g.  $180 \times 10^6$  in standard form

8. write a mix of ordinary and standard form numbers in order

7. write e.g. 0.000 06 in standard form

6. write e.g. 43 000 in standard form

4. write e.g.  $5.2 \times 10^{-4}$  as an ordinary number

2. write e.g.  $3.1 \times 10^4$  as an ordinary number

1. **scaffold to** write e.g.  $3.1 \times 10^4$  as an ordinary number **scaffold is** step by step examples