correctDP

1. **scaffold to** write decimal correct to 1 d.p. **scaffold is** check first decimal place + write chop below and chop and up above
2. write decimal correct to 1 d.p.
3. **scaffold to** layer 4, 5 and 6
4. write £ correct to the nearest penny
5. write decimal correct to 2 d.p.
6. write decimal correct to 3 d.p.

decimalFraction

1. write down the (i) fraction (ii) percentage shaded of a 100 square {simplify not needed}
2. write $\frac{F}{100}$ as a percentage or v.v. {simplify not needed}
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
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
5. write decimal {2 d.p.} as percentage OR suitable % as a decimal {gives decimal to 2 d.p.}
6. **scaffold to** write 0.03 as a percentage or 3% as a decimal
7. write 0.03 as a % or 3 % as a decimal
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
9. write e.g. 0.9 {1 d.p.} as percentage or percentage e.g. 210 % as decimal {1 d.p.}
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
11. **scaffold to** layer 12
12. write decimal (2 or 3 dp) as a fraction
13. **scaffold to** write fraction as a percentage (multiply by e.g. 5, 25 etc, but no simplify)
14. write fraction as a percentage {must multiply by e.g. 5, 25 etc, but simplify not required}
15. write fraction as a decimal {must multiply by e.g. 5, 25 etc, but simplify not required}
16. write 2 etc as a percentage
17. write 200% as a decimal
18. deliberately confusing e.g. write 0.03% as a decimal

decimalXdiv

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

estimateSIGfig

1. **scaffold to** write Ones.t correct to 1 s.f. **scaffold is** given number line, write the chop below and the chop and up above
2. write Ones.t correct to 1 s.f.
3. **scaffold to** estimate Ones.t x Ones.t **scaffold is** fill in gaps + use of almost equal sign + tell them in GCSE questions they should always use 1.s.f.
4. write $1 \leq n < 10$ and $n > 20$ correct to 1 significant figure
5. estimate e.g. 25.2 x 62 {TO/O $\times$ HTO/TO}
6. write $10 < n < 20$ {i.e. teen} correct to 1 significant figure
7. write $0 \leq n < 1$ to 1 significant figure
8. write n > 1 to 2 or 3 significant figures
9. write $0 \leq n < 1$ to 2 or 3 significant figures
10. estimate e.g. 5.2×6.7 {Ones $\times$ Ones} or explain why 3.484 is wrong answer {at least one number rounds up} LESLEY JOIN OLD 2 (never round up) and OLD 4
11. **scaffold to** layer 12
12. estimate $\times$ with standard form
13. **scaffold to** layer 14
14. write e.g. 799.7 correct to nearest integer or e.g. 5.996 correct to 2 d.p. or 79950 correct to 3 significant figures {i.e. the correct accuracy changes several digits}

fractionADDsub

1. **scaffold to** work out $\frac{n_1}{d} \pm \frac{n_2}{d}$ **scaffold is** incompletely labelled fraction line
2. **scaffold to** explain why $\frac{n_1}{d} + \frac{n_2}{d} \neq \frac{n_1 + n_2}{2d}$ **scaffold is** shaded shapes or number line
3. work out $\frac{n_1}{d} \pm \frac{n_2}{d}$ {simplify NOT required}
4. **scaffold to** work out $\frac{n_1}{d} + \frac{n_2}{kd}$ {simplify NOT required} **scaffold is** fraction line
5. work out $\frac{n_1}{d} \pm \frac{n_2}{kd}$ {simplify NOT required}
6. **scaffold to** work out $\frac{n_1}{d_1} \pm \frac{n_2}{d_2}$ {simplify NOT required} **scaffold is** fraction line
7. **scaffold to** work out $\frac{n_1}{d} \pm \frac{n_2}{kd}$ in simplest form **scaffold is** fraction line with suitable labels
8. work out $\frac{n_1}{d} \pm \frac{n_2}{kd}$ {simplify IS required}
9. work out $\frac{n_1}{d_1} \pm \frac{n_2}{d_2}$ {simplify NOT required}
10. work out $\frac{n_1}{d_1} \pm \frac{n_2}{d_2}$ {simplify IS required}
11. mixed fraction ± mixed fraction {easier}
12. **scaffold to** layer 13
13. mixed fraction ± mixed fraction {harder e.g. 3 - $\frac{7}{12}$ or 3 + $\frac{7}{6}$}

fractionINTRO

1. shade in $\frac{1}{d}$ of a rectangle with d squares
2. shade in $\frac{n}{d}$ of a rectangle with d squares {n > 1}
3. what fraction of picture is shaded {simplify NOT required}
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 $\frac{1}{6}$
5. know: $1/4 = 25\%$ and $1/2 = 50\% = 2/4$ and $3/4 = 75\%$
6. **scaffold to** find equivalent fractions **scaffold is** number line labelled in e.g. $\frac{1}{3}$s and $\frac{1}{12}$s
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 $\frac{?}{3d}$
8. **scaffold to** find equivalent fractions **scaffold is** given part of times table grid
9. **scaffold to** complete e.g. $\frac{3}{4} = \frac{}{8}$ or $\frac{}{12}$ or $\frac{}{16}$ **scaffold is** square dotty paper
10. complete e.g. $\frac{3}{4} = \frac{}{8}$ or $\frac{}{12}$ or $\frac{}{16}$ or $\frac{}{20}$ or $\frac{}{40}$
11. complete improper and proper fractions on number line
12. write probability shown on probability line as a fraction
13. complete equivalent fractions from diagrams LESLEY 0333

fractionOF

1. **scaffold to** work out half of ... {answer 1 to 5} **scaffold is** e.g. spots on butterfly
2. **scaffold to** work out half of ... {answer is 6 to 9} **scaffold is** example picture
3. **scaffold to** work out half of ... {answer is 1 to 5} **scaffold is** e.g.blank butterfly
4. work out half of ... {answer is 2 to 5}
5. **scaffold to** work out half of {20, 40, 60, 80, 100} **scaffold is** hint half of {2, 4, 6, 8, 10}
6. work out half of T0 {20, 40, 60, 80, 100}
7. **scaffold to** work out half of TO {both digits are even e.g. 46} **scaffold is** partitioning
8. work out half of TO {both digits are even e.g. 46}
9. **scaffold to** work out half of ... {answer is 6 to 9} **scaffold is** fingers and toes
10. **scaffold to** work out $\frac{1}{d}$ of ... $\{3 \leq d \leq 6\}$ **scaffold is** sharing into boxes
11. work out $\frac{1}{d}$ of ... $\{3 \leq d \leq 10$ e.g. $\frac{1}{5}$ of 35$\}$
12. work out half of ... {answer is 6 to 9}
13. **scaffold to** work out half of 30, 50, 70 or 90 **scaffold is** half of 10 + half of ...
14. work out half of TO {where T is odd and O is even e.g. 76}
15. **scaffold to** work out $\frac{n}{d}$ of ... $\{3 \leq d \leq 12$ e.g. $\frac{3}{5}$ of 35$\}$ **scaffold is** times table grid
16. work out $\frac{n}{d}$ of ... {where $3 \leq d \leq 10$ and $n \geq 2$ e.g. $\frac{2}{5}$ of 35}
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}

fractionXdiv

1. **scaffold to** fraction × fraction **scaffold is** picture of cutting out fraction of fraction
2. fraction × fraction {simplify NOT required}
3. scaffold for layer 4
4. number × fraction
5. picture of fraction divide by fraction
6. fraction ÷ fraction {simplify NOT required}
7. fraction × fraction {simplify IS required}
8. fraction ÷ fraction {simplify IS required}
9. number × mixed number e.g. $4 \times 1\frac{2}{3}$
10. mixed fraction × mixed fraction

moreIndex

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

numberDIV10etc

1. **scaffold to** work out T0 ÷ 10 **scaffold is** fingers to count in 10s
2. work out T0 ÷ 10
3. **scaffold to** work out HT0 or Th HTO ÷ 10 **scaffold is** place value grid
4. work out T0 or HT0 or Th HT0 ÷ 10
5. **scaffold to** work out {as complex as} HTO.th ÷ 10 **scaffold is** place value grid {no need to add leading or remove training 0s}
6. work out {as complex as} HTO.th ÷ 10 {no need to add leading or remove trailling 0s}
7. divide up to ThHTO by 10, a different by 100 and a third by 1000 (ie decimal point is not given) - no need to add leading or remove training 0?s - in place value grid
8. work out {as complex as} Th HTO ÷ 10 {NO decimal point, no need to add leading or remove training 0s}
9. work out {as complex as}TTh Th HTO.th ÷ 100 or 1000 {no need to add leading or remove training 0s}
10. work out {as complex as}TTh Th HTO ÷ 100 or 1000 {NO decimal point, no need to add leading or remove trailing 0s}
11. **scaffold to** divide up to TthThHTO.dddd by 100 or 1000 (decimal point is given, must add leading 0s) **scaffold is** place value grid
12. work out e.g. TU.th ÷ 10 or 100 or 1000 {add leading 0s}
13. **scaffold to** divide up to TthThHTU by 100 or 1000 (decimal point is given, must delete trailing 0s) **scaffold is** place value grid
14. work out e.g. HT0 ÷ 100 or 1000 {delete trailing 0s}

orderFDP

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
2. order list of decimals e.g. 0.002, 0.02, 0.2 {only one digit $\neq 0$}
3. **scaffold to** write the value of e.g. 2 or 3 in 4.23 **scaffold is** place value grid
4. write the value of e.g. 2 or 3 in 4.23
5. **scaffold to** layer 6
6. order list of decimals {mix of 1.d.p. and 2 d.p.}
7. order list of decimals {mix of 1.d.p. 2 d.p. and 3 d.p.}
8. **scaffold to** order list of decimals e.g. 09, 0.06, 0.7 etc {only one digit $\neq 0$} or order 0.009 and 0.01 etc
9. which is larger e.g. $\frac{4}{5}$ or 79% ?{NO simplify required to convert the fraction to a percentage}
10. order mix of FDP all quite easy to turn into percentages
11. order mix of fractions, need to use equivalent fractions
12. deliberately confusing e.g. 0.12% as a decimal
13. order mix of FDP (must simplify fractions to turn to percentages)

11. which is larger e.g. $\frac{24}{40}$ or 61% {simplify IS required to convert the fraction to a percentage}

percentOF

1. work out 50% of e.g. £426 {every digit is even}
2. work out 50% of e.g. £1436 {some digits are odd}
3. work out 25% of e.g. £17.40
4. work out 10% of e.g. £17.40
5. work out 75% of e.g. £17.40
6. work out 5% or 20% of e.g. £17.40
7. work out 15% or 30% of e.g. £17.40
8. work out {in a word problem} e.g 20% of £250
9. work out final amount {in a word problem} after a e.g 20% increase or decrease of £250
10. work out 1% or 2% or 2.5% or 40% or 80% of e.g. £250

ratio

1. **scaffold to** share TOTAL in ratio e.g. 2 : 3 **scaffold is** example and empty labelled boxes
2. **scaffold to** share TOTAL in ratio e.g. 2 : 3 **scaffold is** empty labelled boxes
3. **scaffold to** write fraction of total which is type A given ratio of type A to type B **scaffold is** incomplete boxes and prompt to choose key
4. ratio to fraction given ratio A : B find fraction of (A) or given ratio A : B : C find fraction of (A)
5. share TOTAL in ratio e.g. 2 : 3
6. fraction to ratio given fraction write a ratio A : B (both)
7. e.g. given TOTAL is split in ratio 2 : 3 how much MORE or LESS 1 person gets than another
8. e.g. given TOTAL is split in ratio 2 : 3 : 4 how much each or how much for 1 person
9. given As SHARE and ratio of A : B what is Bs share
10. convert one ratio share to a percentage
11. A gets £12 more than B ratio is a:b or a:b:c and what is total or share for a share
12. A has twice as many as B, C has 3 times as many as B, given total find a share
13. string is split into two pieces the long piece is 4 times the short piece the total length is given, how long is the long piece (ie extension of ratio 4) also (2017 p3 q10)

simplestForm

1. **scaffold to** write fraction in simplest form **scaffold is** given numerator and denominator as product of prime factors
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
3. write fraction in simplest form {only ÷ 2 or ÷ 10 once}
4. write fraction in simplest form {need to ÷ 5 or 9 once or ÷ 2 more than once}
5. write fraction in simplest form {need to ÷ 3 once and/or ÷ 2 or 5 more than once}
6. write 30% as a fraction in its simplest form
7. write ratio in simplest form
8. write fraction {in words} as fraction in its simplest form
9. write ratio {in words} as ratio in its simplest form
10. e.g. 450 grams out of 1kg as a WATCH OUT lots are e.g 56m/2km
11. what fraction of picture is shaded e.g $\frac{1}{4} + \frac{3}{16}$
12. scaffold fraction to percentage to decimal (multiply by e.g. 5, 25 etc, but simplify FIRST)
13. fraction as % or decimal (need to multiply by e.g. 5, 25 etc, but simplify FIRST) see OLD XXX HigherFDPRskills 2 and 3

standardForm

1. **scaffold to** write e.g. 3.1×10^4 as an ordinary number **scaffold is** step by step examples
2. write e.g. 3.1×10^4 as an ordinary number
3. scaffold for layer 4
4. write e.g. 5.2×10^{-4} as an ordinary number
5. scaffold for layer 6 and 7
6. write e.g. 43 000 in standard form
7. write e.g. 0.000 06 in standard form
8. write a mix of ordinary and standard form numbers in order
9. write e.g. 180×10^6 in standard form
10. work out e.g $3 \times 10^4 \times 6 \times 10^3$ giving answer in standard form
11. scaffold for layer 12
12. work out e.g $(2.8 \times 10^4) \div (1.4 \times 10^{-1})$ giving answer in standard form