Fractions, Decimals and Percentages KS2 SATS Standard Worksheet

Answers

1. 20 (cherries) [1]

2. ✔️ on shapes a and b.

   If extra shapes are ticked, do not award the mark unless the child clearly indicates which are his or her final selection. [1]

3. (a) Writes 8.2 in the left-hand box. 1
   (b) Writes 10.1 in the right-hand box. 1 [2]

4. (a) Tom 4 1m
   (b) 4 1m [2]

5. Ring drawn enclosing 7 apples.
   Accept any other clear way of indicating 7 apples. [1]

6. 5.7 1
   Accept 5 \( \frac{7}{10} \) or equivalent. [1]

7. (a) Equivalent of 2 squares shaded, eg 1m
Accept part squares shaded as long as the intention is clear.

(b) Equivalent of 2 squares shaded, eg

Accept part squares shaded as long as the intention is clear.
Accept inaccuracies in shading providing the intention is clear.

8. Two cards ticked as shown:

\[
\begin{array}{ccc}
\frac{1}{3} & \frac{1}{3} & \frac{1}{3} \\
\frac{3}{4} & \frac{3}{4} & \frac{4}{4}
\end{array}
\]

OR

\[
\begin{array}{ccc}
\frac{1}{3} & \frac{1}{3} & \frac{1}{3} \\
\frac{3}{4} & \frac{3}{4} & \frac{4}{4}
\end{array}
\]

Accept alternative unambiguous indications such as circling or a line joining a correct pair of cards.

9. Boxes completed as shown:

\[
\begin{array}{ccc}
\frac{1}{4} & \frac{1}{2} & \frac{3}{4} \\
1 & 1 & 2
\end{array}
\]

Both numbers must be correct for the award of the mark.

10. Do not accept \( \frac{1}{4} \)

Accept five stickers indicated on the drawing, provided it is clear they are rabbit stickers, eg

\[
\begin{array}{ccccc}
R & R & R & R & R
\end{array}
\]

11. Two fractions circled as shown:

\[
\begin{array}{ccc}
\frac{1}{8} & \frac{6}{10} & \frac{5}{8}
\end{array}
\]

Both fractions must be correct for the award of the mark.
Accept any other clear way of indicating the two correct fractions, such as underlining or ticking.
12. \( \frac{1}{4} \) or \( \frac{2}{8} \)  

Accept equivalent fractions.  

[1] m

13. Circles two fractions as shown:  

Both fractions must be correct for the award of the mark.  
Accept any other clear way of indicating the correct fractions, such as ticking or underlining.  

[1]

14. An arrow drawn on the number line as shown:  

Accept any other clear way of indicating \( 1 \frac{3}{4} \) on the number line \n
as long as the intention is clear.  
Accept slight inaccuracies, provided the intention is clear.  

[1]

15. Any two of the eight triangles shaded, eg  

Accept any other unambiguous indication of the correct fraction, such as four half-triangles shaded.  

[1]

16. £1.25  

Accept also £1 25, £1.25p or £1 25 (with a clear gap between the 1 and 25).  

[1]

17. Two cards ticked as shown:  

[1]
Accept alternative unambiguous indications such as circling or a line joining the correct pair of cards.

18. 9.8 [1m]

19. 650 [1]

20. Diagram completed correctly as shown: 1

Both lines must be drawn correctly for the award of the mark.
Lines need not touch boxes or numbers exactly, provided the intention is clear.

21. 459 [1]

22. $\frac{2}{8}$ joined to $\frac{1}{4}$ 1

The line need not touch the fractions, provided the intention is clear.
Do not award the mark if more than one pair of fractions are joined.

23. 0.1 0.5 0.05 0.7 0.07 0.2

Accept alternative indications, eg the numbers crossed or underlined.

24. Boxes completed as shown: 1
25. Any three squares shaded, eg

Shaded squares need not be joined in any way.
Shading may be in terms of part squares, eg

Accept slight inaccuracies in shading provided the intention is clear.

26. Boxes completed as shown:

Accept 3.5 written once.
Accept \(3 \frac{1}{2}\)

27. 630

28. Two fractions circled as shown:

Both fractions must be indicated for the award of the mark.
Accept any other clear way of indicating the correct fractions, such as ticking or underlining.
29. Award **TWO** marks for the table correctly completed as shown:  

<table>
<thead>
<tr>
<th>✓</th>
<th>✓</th>
</tr>
</thead>
</table>

If the table is not correctly completed award **ONE** mark for any two out of three ticks correct.  
*Do not accept any row that has both columns ticked.*  
*Accept unambiguous alternatives to ticks, eg ‘yes’.*

30. \[ \frac{3}{8} \]  

Accept equivalent fractions or decimals, eg 0.375

31. Diagram completed correctly as shown:  

\[ \frac{1}{30} \text{ of } 30 \]  
\[ \frac{1}{30} \text{ of } 75 \]  
\[ \frac{1}{30} \text{ of } 150 \]  

*Lines need not touch boxes or numbers exactly, provided the intention is clear.*  
*Do not accept two or more lines emanating from the same left-hand box.*

32. Award **TWO** marks for both fractions correct as shown:  

\[ \frac{3}{6} \text{ OR } \frac{6}{12} \]  

If the answer is incorrect, award **ONE** mark for one fraction correct.  
*Accept fractions written in either order.*
33.  (a)  \( 1 \frac{1}{2} \) in the first box  
    \[ \text{Accept equivalent fractions or decimals, eg} \ 1.5 \]  
    1 m  

(b)  \( 2 \frac{1}{4} \) in the second box  
    \[ \text{Accept equivalent fractions or decimals, eg} \ 2.75 \]  
    1 m  

[2]  

34.  \( \frac{5}{9} \)  
    \[ \text{Accept equivalent fractions.} \]  
    1  

[1]  

35.  65  
    1  

[1]  

36.  Fractions must be written in the correct order for the award of the mark.  
    [1]  

37.  All four numbers correctly placed as shown:  
    1  

All four numbers must be placed correctly for the award of the mark.  
Transcription errors are acceptable only if they do not result in a wrongly ordered list.  

[1]  

38.  (a)  18  
    \[ \text{Do not accept} \ 18\% \]  
    1  

(b)  200  
    \[ \text{Do not accept} \ 200\% \]  
    \[ \text{If the answer for 23a is} \ 18\% \ \text{AND the answer for 23b is} \ 200\%, \ \text{award} \ \text{ONE mark only in the 23b box.} \]  
    [2]
40. (a) Award **TWO** marks for 7500cm² even if there are errors in working. If answer is incorrect, award **ONE** mark for evidence of attempt to calculate 60 × 125 by any appropriate method involving multiplication (not repeated addition only) and some correct partial solution, eg:
- 60 × 100 + 60 × 20 + 60 × 5 = 6000 + 120 + 30 (partially correct)
- 10 × 125 × 6 = 1205 × 6 (incorrect answer given)
- 60 × 125 = 750 (incorrect answer given)

(b) Award **TWO** marks for the correct answer of 1500cm² or **TWO** marks for correct calculation of 20% of answer given to (a)
If the answer is incorrect award **ONE** mark for evidence of an attempt to calculate 20% by an appropriate method, eg:
- 20% is 1/5, so that’s 7500 ÷ 5 = (incorrect answer given)

In marking part (b) give credit to children who correctly calculate 20% of their answer to (a), even if their answer to (a) was incorrect.
The writing of an expression such as:
- \( \frac{20}{100} \times 7500 \)
- \( 0.2 \times 7500 \)

alone, without working, is insufficient for the award of the mark.

41. Fractions completed as shown below:

\[
\begin{align*}
\frac{6}{10} & \quad \frac{9}{15} \\
12 & \quad \frac{20}{20}
\end{align*}
\]

All three fractions must be correct for the award of the mark.

42. 69

43. (a) \( \frac{3}{7} \) OR \( \frac{3}{9} \) OR \( \frac{3}{11} \) OR \( \frac{5}{11} \)

Accept only fraction formed by the cards given.

(b) \( \frac{4}{7} \) OR \( \frac{6}{9} \) OR \( \frac{8}{11} \) OR \( \frac{6}{11} \)

consistent with part (a).

If part (a) is incorrect, accept working of \( 1 - (\text{answer to part (a)}) \) provided the numbers used are on the cards.

Accept decimals.
If answer to part (a) is greater than 1, answer to part (b) must be negative.

[2]

44. £180

Do not accept 180%

[1]

45. (a) Award TWO marks for the correct answer of 2

If the answer is incorrect, award ONE mark for evidence of appropriate method, eg

\[
\frac{3}{4} \text{ of } 24 = 18
\]

\[
green = 24 - 18 - 4
\]

Answer need not be obtained for the award of the mark.

(b) \(\frac{1}{5}\)

Accept equivalent fractions.

Do not accept ‘1 in 5’ OR ‘1 : 5’.

[3]

46. An appropriate explanation which recognises that:

1\(\frac{1}{3}\) = \(\frac{5}{15}\) and \(\frac{2}{5}\) = \(\frac{6}{15}\)

No mark is awarded for writing \(\frac{2}{5}\) alone.

OR

1\(\frac{1}{3}\) = \(\frac{2}{6}\) which is less than \(\frac{2}{5}\)

Do not accept vague or arbitrary explanations, eg

- ‘Because \(\frac{2}{5}\) is bigger than \(\frac{1}{3}\);’

- ‘Because \(\frac{1}{3}\) comes first on a number line’.

OR

that \(\frac{1}{3}\) is less than \(\frac{2}{5}\) because \(3 \times \frac{2}{5}\) is greater than 1

[1]

47. (a) The answer is approximately \(\frac{1}{7}\). Accept any fraction, percentage or decimal in the range:

- 1/9 to 1/5, inclusive
- 11% to 20%, inclusive
- 0.11 to 0.2, inclusive

(b) The correct answer is 10. Accept any number in the range 8 to 12, inclusive.  

[9]
(c) The explanation should make reference, in some form, to appropriate fractional estimates, eg:

- “Because it looks like a quarter of a half and that’s 10.”
- “I thought the violin looked like half the trumpet and that was about a quarter.”
- “I decided this because 1/4 was 20 children, so I halved 20 and made it 10.”

Explanations which lack specific reference to appropriate fractions should not be awarded the mark, eg:

- “Because it’s a bit less than the trumpet.”
- “Because there are 6 parts to the pie chart.”

(d) Award TWO marks for the correct answer of 12, even if there are errors in the working. up to 2

Award ONE mark if the answer is incorrect, but there is evidence of an attempt to calculate 15% of 80 by any method, eg:

- \( \frac{15}{100} \times 80 = \) (incorrect answer given)
- \( 10\% \text{ of } 80 = 8, \ 5\% \text{ is } 4, \text{ so } 15\% \text{ of } 80 =\) (incorrect answer given)
- \( 1\% \text{ of } 80 = \frac{80}{100} = \frac{4}{5}, \text{ so } 15\% = \frac{4}{5} \times 15 = \) (incorrect answer given)

The writing of “\( \frac{15}{100} \times 80 \)” (or equivalent) alone is not sufficient evidence of an attempt to calculate.

48. 367.5 OR 367½ 1m [1]
49. (a) \( \frac{1}{5} \) OR \( \frac{10}{50} \) 1

Accept other equivalent fractions, eg, \( \frac{20}{100} \)

(b) Explanations which imply that the results from a small sample cannot safely be applied to a large one, eg:

- ‘You could be wrong because every section is different’
- ‘The article is only a small proportion of the whole newspaper’
- ‘The rest could be different’
- ‘You can’t judge a whole newspaper by one article’

Do not accept vague or arbitrary explanations such as:

- ‘She might not have counted right’;
- ‘The words in the newspaper might be big’;
- ‘There are more bigger words than small’.

50. 157.5 OR 157½ 1m [1]

51. Award TWO marks for the correct answer of 112 500 Up to 2m

If the answer is incorrect, award ONE mark for evidence of appropriate method, eg

- 45% of 250 000

Answer need not be obtained for the award of ONE mark.

52. 126 1