1.2 Number: Fractions, Decimals, Percentages: Test Pack

Calculator allowed · about 55 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Convert each fraction to a decimal and to a percentage.

(a) Convert 1/4 to a decimal and a percentage. **(1)**

(b) Convert 3/5 to a decimal and a percentage. **(1)**

(c) Convert 7/10 to a decimal and a percentage. **(1)**

(d) Convert 1/8 to a decimal and a percentage. **(1)**

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2 Simplify each fraction fully.

(a) Simplify 12/18 **(1)**

(b) Simplify 15/20 **(1)**

(c) Simplify 24/36 **(1)**

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3 Write 5/8 as a decimal.

(1)

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4 Write these values in order of size, starting with the smallest: 0.3, 7/20, 32%, 0.29

(2)

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5 Work out 7/8 - 1/3, giving your answer as a fraction in its simplest form.

(2)

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6 Increase £200 by 10%.

(2)

---

7 Write these fractions in order of size, largest first.
5/12, 1/2, 3/4

(2)

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8 Write 70% as (a) a decimal and (b) a fraction in its simplest form.

(2)

---

9 Write 14/49 in its simplest form.

(1)

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10 Write these fractions in order of size, largest first.
2/4, 1/5, 5/8

(2)

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11 Work out 8/9 of £126.

(2)

---

12 Work out 1/10 of £30.

(2)

---

13 14 out of 20 players scored a goal. What fraction is this? Give your answer in its simplest form.

(2)

---

14 A coat has a normal price of £84. In a sale it is reduced by 25%. Calculate the sale price of the coat.

(3)

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15 Two furniture shops sell the same sofa. Shop A has a marked price of £84 with 25% off in a sale. Shop B has a marked price of £88 with 30% off in a sale.

(a) Work out the sale price at Shop A. **(1)**

.....

(b) Work out the sale price at Shop B. **(1)**

.....

(c) State which shop offers the cheaper price for the sofa and find the difference in price. **(2)**

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16 A car is valued at £12000. It depreciates by 15% in the first year, then by a further 10% of its new value in the second year. Calculate its value at the end of the second year.

(3)

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17 Show that 0.7 recurring (0.7777...) is equal to 7/9.

(3)

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18 Aisha invests £2500 in a savings account paying compound interest at a rate of 3.5% per annum. Calculate the value of her investment after 3 years. Give your answer to the nearest penny.

(4)

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Mark scheme · 1.2 Number: Fractions, Decimals, Percentages: Test Pack

A correct answer earns full marks unless the question asks for working, a method, proof or explanation.

Question 1

(a) 0.25 and 25% cao	B1
(a) Answer: **0.25 = 25%**	
(b) 0.6 and 60% cao	B1
(b) Answer: **0.6 = 60%**	
(c) 0.7 and 70% cao	B1
(c) Answer: **0.7 = 70%**	
(d) 0.125 and 12.5% cao	B1
(d) Answer: **0.125 = 12.5%**	

Question 2

(a) 2/3 cao	B1
(a) Answer: **2/3**	
(b) 3/4 cao	B1
(b) Answer: **3/4**	
(c) 2/3 cao	B1
(c) Answer: **2/3**	

Question 3

0.625 cao	B1
Answer: **0.625**	

Question 4

all four values correctly written as decimals: 0.3, 0.35, 0.32, 0.29 oe	M1
correct order cao	A1
Answer: **0.29, 0.3, 32%, 7/20**	

Question 5

common denominator of 24 used: 21/24 - 8/24 oe	M1
13/24 cao	A1
Answer: **13/24**	

Question 6

10% of 200 = 20 or a multiplier of 1.1 used	M1
£220 cao	A1
Answer: **£220**	

Question 7

converts to a common denominator (12) or to decimals	M1
3/4, 1/2, 5/12 cao	A1
Answer: **3/4, 1/2, 5/12**	

Question 8

(a) 0.7	B1
(b) 7/10	B1
Answer: **(a) 0.7, (b) 7/10**	

Question 9

2/7 cao	B1
Answer: **2/7**	

Question 10

converts to a common denominator (40) or to decimals	M1
5/8, 2/4, 1/5 cao	A1
Answer: **5/8, 2/4, 1/5**	

Question 11

£126 ÷ 9 = £14 or £126 x 8 = £1008	M1
£112 cao	A1
Answer: **£112**	

Question 12

£30 ÷ 10 = £3 or £30 x 1 = £30	M1
£3 cao	A1
Answer: **£3**	

Question 13

14/20 seen	M1
7/10 cao	A1
Answer: **7/10**	

Question 14

25% of 84 = 21 oe, or multiplier 0.75 identified	M1
84 - 21 oe, or 84 x 0.75	M1
63 (pounds) cao	A1
Answer: **£63**	

Question 15

(a) 63 (pounds) cao	B1
(a) Answer: **£63**	
(b) 61.60 (pounds) cao	B1
(b) Answer: **£61.60**	
(c) Shop B stated as cheaper ft from (a) and (b)	B1
(c) difference of £1.40 cao	B1
(c) Answer: **Shop B is cheaper by £1.40**	

Question 16

12000 x 0.85 = 10200 oe	M1
10200 x 0.9 oe	M1
9180 (pounds) cao	A1
Answer: **£9180**	

Question 17

sets x = 0.7777... and forms 10x = 7.7777... oe	M1
subtracts to get 9x = 7 oe	M1
x = 7/9 cso (answer given, full method required)	A1
Answer: **7/9**	

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Question 18

2500 x 1.035 = 2587.50 oe (year 1 value)	**M1**
2587.50 x 1.035 = 2678.06 awrt oe (year 2 value)	**M1**
2678.06 x 1.035 oe, or use of 2500 x 1.035^3 (year 3 value)	**M1**
2771.79 (pounds) awrt cao, to the nearest penny	**A1**

Answer: **£2771.79**

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