Fractions, Decimals & Percentages: Hard Practice Paper 7 Answers

Q#	Answer	Explanation
1	B	The smallest number both 6 and 8 divide into is 24. Then 5/6 becomes 20/24 and 3/8 becomes 9/24, so the total is 29/24. That is one whole with 29 − 24 = 5 twenty-fourths left, giving 1 5/24.
2	C	Use twelfths: 2 3/4 is 2 9/12 and 1 5/6 is 1 10/12. Since 10/12 is bigger than 9/12, take one whole from the 2, making 1 21/12. Then 1 − 1 = 0 wholes and 21/12 − 10/12 = 11/12.
3	C	Change both to improper fractions first: 2 1/2 is 5/2 and 1 3/5 is 8/5. Multiplying gives 5 × 8 = 40 on top and 2 × 5 = 10 underneath, and 40 ÷ 10 = 4.
4	C	Write them as improper fractions: 15/4 and 3/2. Dividing by a fraction means turning it upside down and multiplying, so work out 15/4 × 2/3, which gives 30 on top and 12 underneath. That is 30 ÷ 12 = 2.5, or 2 1/2.
5	D	Work from the inside out. Two thirds of 480 is 480 ÷ 3 = 160 for each third, so 160 × 2 = 320. Then three quarters of 320 is 320 ÷ 4 = 80 for each quarter, so 80 × 3 = 240.
6	B	After the rent she has 3/4 left. The food takes 2/5 of that 3/4, which is 6/20, or 3/10. Taking that away gives 3/4 − 3/10, and in twentieths that is 15/20 − 6/20 = 9/20.
7	C	If 3/7 is 24 then one seventh is 24 ÷ 3 = 8, so the whole number is 8 × 7 = 56. One fourteenth of 56 is 56 ÷ 14 = 4, so five fourteenths is 4 × 5 = 20.
8	D	Three quarters is 0.75, so compare each with that. The five values are about 0.688, 0.714, 0.72, 0.76 and 0.8, and their gaps from 0.75 are 0.062, 0.036, 0.03, 0.01 and 0.05. The smallest gap belongs to 0.76.
9	C	Halfway between two numbers is found by adding them and halving. In twenty-fourths the two fractions are 8/24 and 18/24, which add to 26/24, and half of that is 13/24.

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10	C	The water rises from 2/5 to 7/10, and in tenths that is from 4/10 to 7/10, a rise of 3/10. So 3/10 of the tank is 24 litres, one tenth is 24 ÷ 3 = 8 litres, and the whole tank holds 8 × 10 = 80 litres.
11	B	This asks how many times 3/8 fits into 3, so work out 3 ÷ 3/8. Dividing by a fraction means turning it over and multiplying, giving 3 × 8/3, which is 24 ÷ 3 = 8 glasses.
12	B	Multiply both numbers by 100 so the divisor becomes a whole number, which does not change the answer: the sum becomes 14.4 ÷ 12. Since 12 goes into 14.4 once with 2.4 left, and 2.4 ÷ 12 = 0.2, the answer is 1.2.
13	A	The last digit is in the thousandths column, so 0.625 is 625/1000. Dividing both numbers by 125 gives 625 ÷ 125 = 5 on top and 1000 ÷ 125 = 8 underneath, so the fraction is 5/8.
14	C	The gap between a half and a fifth is 1/2 − 1/5, which in tenths is 5/10 − 2/10 = 3/10. That gap is worth 6, so one tenth is 6 ÷ 3 = 2 and the whole number is 2 × 10 = 20. Checking: half of 20 is 10 and a fifth is 4, and 10 − 4 = 6.
15	E	Write everything as a decimal. They come to 0.6, 0.625, 0.66, about 0.667 and 0.68. The largest of these is 0.68, so 68% is the greatest.

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