Medical Dosage Calculations 11th edition Giangrasso Test Bank

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Medical Dosage Calculations, Updated 11e **(Giangrasso)**
Chapter 1 Review of Arithmetic for Dosage Calculations

1) Write the following as a mixed number: 17/4.
1. 4 1/4
2. 4
3. 64
4. 20
Answer: 1
Explanation: Divide the numerator by the denominator or 17 ÷ 4 = 4 with 1 left over so the answer is 4 with the 1 remainder over 4 or 4 ¼
Learning Outcome: 1.1 Changing improper to mixed form.

2) Write the following as a mixed number: 36/7.
1. 4 6/7
2. 5 1/7
3. 4 1/7
4. 5
Answer: 2
Explanation: Divide the numerator by the denominator: 36 ÷ 7 = 5 with a remainder of 1 or 5 1/7
Learning Outcome: 1.1 Changing improper to mixed form.

3) Write the following as a mixed number: 7/2.
1. 4 1/2
2. 5 1/2
3. 3 1/2
4. 3
Answer: 3
Explanation: Divide the numerator by the denominator: 7 ÷ 2 = 3 with 1 remaining or 3 1/2
Learning Outcome: 1.1 Changing improper to mixed form.

4) Write the following number as an improper fraction: 8 5/6.
1. 53/6
2. 40/6
3. 53/8
4. 45/6
Answer: 1
Explanation: Multiply the whole number by the denominator, and add the numerator. 8 × 6 = 48 + 5 = 53. Place this number over the denominator for 53/6
Learning Outcome: 1.1 Changing mixed to improper form.

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5) Write the following number as an improper fraction: 5 5/6.
1. 35/6
2. 30/6
3. 25/6
4. 41/6
Answer: 1
Explanation: Multiply the whole number by the denominator and add the numerator: 5 × 6 = 30 + 5 = 35. Place this number over the denominator: 35/6
Learning Outcome: 1.1 Changing improper to mixed form.

6) Write the following number as an improper fraction: 8 1/3.
1. 11/3
2. 24/3
3. 8/3
4. 25/3
Answer: 4
Explanation: Multiply the whole number by the denominator and add the numerator: 8 × 3 = 24 + 1 = 25 Place this number over the denominator: 25/3
Learning Outcome: 1.1 Changing improper to mixed form.

7) Write 0.125 as a fraction in lowest terms and as a percentage.
1. 125/100; 1.25%
2. 25/100; 25%
3. 1/6; 12.5%
4. 1/8; 12.5%
Answer: 4
Explanation: Write one hundred twenty-five thousandths as 125/1000, and then reduce the fraction to 1/8. Move the decimal two places to the right yielding 12.5%
Learning Outcome: 1.4 Convert between decimal numbers and fractions.

8) Write 0.2 as a fraction in lowest terms and as a percentage.
1. 1/50; 2%
2. 1/5; 20%
3. 2/100; 0.2%
4. 1/500; 0.002%
Answer: 2
Explanation: Write 2 tenths as 2/10 and reduce to 1/5. Move the decimal point 2 places to the right yielding 20%
Learning Outcome: 1.4 Convert between decimal numbers and fractions.

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9) Write 0.49 as a fraction in lowest terms and as a percentage.
1. 49/100; 49%
2. 7/15; 49%
3. 49/100; 4.9%
4. ½; 4.9%
Answer: 1
Explanation: Write 0.49 as 49/100 which cannot be reduced further. Move the decimal point 2 places to the right to yield 49%
Learning Outcome: 1.4 Convert between decimal numbers and fractions.

10) Write 0.75 as a fraction in lowest terms and as a percentage.
1. 75/100; 75%
2. 15/20; 7.5%
3. 15/20; 75%
4. ¾; 75%
Answer: 4
Explanation: Write 0.75 as 75/100 and reduce to ¾. Move the decimal point 2 places to the right to yield 75%
Learning Outcome: 1.4 Convert between decimal numbers and fractions.

11) Write 0.06 as a fraction in lowest terms and as a percentage.
1. 3/50; 60%
2. 6/10; 6%
3. 3/50; 6%
4. 3/5; 6%
Answer: 3
Explanation: Write 0.06 as 6/100 and reduce to 3/50. Move the decimal point 2 places to the right to yield 6%.
Learning Outcome: 1.4 Convert between decimal numbers and fractions.

12) Write 55% as a decimal number and a proper fraction in lowest terms.
1. 5.5; 55/100
2. 0.055; 55/1000
3. 0.55; 11/20
4. 0.0055; 11/200
Answer: 3
Explanation: Move the decimal 2 places to the left or 0.55, place 55 over 100 and reduce to 11/20
Learning Outcome: 1.7 Write percentages as decimal numbers and fractions.

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13) Write 72% as a decimal number and a proper fraction in lowest terms.
1. 7.2; 72/1000
2. 7.2; 72/100
3. 0.72; 36/50
4. 0.72; 18/25
Answer: 4
Explanation: Move the decimal 2 places to the left or 0.72. Place 72 over 100 and reduce to 18/25
Learning Outcome: 1.7 Write percentages as decimal numbers and fractions.

14) Write 0.6% as a decimal number and a proper fraction in lowest terms.
1. 3/50; 0.06
2. 6/100; 0.60
3. 1/17; 0.06
4. 3/500; 0.006
Answer: 4
Explanation: Move the decimal 2 places to the left or 0.006, place 6 over 1000 and reduce to 3/500
Learning Outcome: 1.7 Write percentages as decimal numbers and fractions.

15) Write 4.5% as a decimal number and a proper fraction in lowest terms.
1. 0.45; 45/100
2. 0.045; 9/200
3. 0.0045; 45/10,000
4. 0.045; 45/1,000
Answer: 2
Explanation: Move the decimal 2 places to the left or 0.045, place 45 over 1000 and reduce to 9/200
Learning Outcome: 1.7 Write percentages as decimal numbers and fractions.

16) Write 25% as a decimal number and a proper fraction in lowest terms.
1. 2.5; 1/40
2. 0.025; 5/200
3. 0.25; 1/4
4. 0.25; 25/100
Answer: 3
Explanation: Move the decimal 2 places to the left or 0.25, place 25 over 100 and reduce to 1/4
Learning Outcome: 1.7 Write percentages as decimal numbers and fractions.

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17) Write 3/5 as a decimal number and a percent.
1. 0.0166; 1.66%
2. 0.6; 60%
3. 0.15; 15%
4. 0.3; 30%
Answer: 2
Explanation: Divide the denominator into the numerator: 3 ÷ 5 = 0.6. Move the decimal point two places to the right yielding 60%
Learning Outcome: 1.2 Write percentages as decimal numbers and fractions.

18) Convert 5/8 to a decimal number and a percent.
1. 1.6; 160%
2. 0.4; 40%
3. 0.625; 62.5%
4. 0.45; 45%
Answer: 3
Explanation: Dividing the denominator into the numerator: 5 ÷ 8 = 0.625. Move the decimal point two places to the right yielding 62.5%
Learning Outcome: 1.2 Write percentages as decimal numbers and fractions.

19) Convert 9/19 to a decimal number rounded off to the nearest tenth, and to a percentage rounded off to the nearest tenth of a percent.
1. 0.5; 47.4%
2. 0.47; 4.8%
3. 0.02; 2.1%
4. 0.4; 47.4%
Answer: 1
Explanation: Divide the denominator into the numerator. 9 ÷ 19 = 0.4736… rounded off to 0.5. Move the decimal point two places to the right yielding 47.4%
Learning Outcome: 1.2 Changing between fractions,decimals and percents.

20) Write 3/5 as a decimal number and a percent.
1. 1.67; 167%
2. 0.6; 60%
3. 0.167; 16.7%
4. 0.06; 6%
Answer: 2
Learning Outcome: 1.2 Changing between fractions,decimals and percents.

21) Reduce 36/48 to lowest terms.
1. 12/18
2. 18/24
3. 9/12
4. 3/4
Answer: 4
Explanation: Divide numerator and denominator by 12 yielding 3/4.
Learning Outcome: 1.1 Reduce and build fractions into equivalent forms.

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22) Reduce 95/100 to lowest terms.
1. 4/5
2. 19/20
3. 24/25
4. 9.5/10
Answer: 2
Explanation: Divide numerator and denominator by 5 yielding 19/20.
Learning Outcome: 1.1 Reduce and build fractions into equivalent forms.

23) Reduce 24/36 to lowest terms.
1. 12/18
2. 3/4
3. 2/3
4. 6/9
Answer: 3
Explanation: Divide numerator and denominator by 12 yielding 2/3.
Learning Outcome: 1.1 Reduce and build fractions into equivalent forms.

24) Reduce the ratio 18:54 to a fraction in lowest terms.
1. 18/54
2. 1/3
3. 3/4
4. 1/2
Answer: 2
Explanation: Convert the ratio to 18/54 and reduce to 1/3.
Learning Outcome: 1.1 Reduce and build fractions into equivalent forms.

25) Reduce the ratio 10:75 to a fraction in lowest terms.
1. 1/7.5
2. 5/15
3. 2/15
4. 1/3
Answer: 3
Explanation: Convert the ratio to 10/75 and reduce to 2/15.
Learning Outcome: 1.1 Reduce and build fractions into equivalent forms.

26) Reduce the ratio 12:24 to a fraction in lowest terms.
1. 1/3
2. 6/18
3. 2/4
4. 1/2
Answer: 4
Explanation: Convert the ratio to 12/24 and reduce to 1/2.
Learning Outcome: 1.1 Reduce and build fractions into equivalent forms.

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27) Write 5/8 as an equivalent fraction with 96 in the denominator.
1. 96/154
2. 65/96
3. 60/96
4. 5/96
Answer: 3
Explanation: 5/8 × 12/12 = 60/96
Learning Outcome: 1.1 Reduce and build fractions into equivalent forms.

28) Write 4/5 as an equivalent fraction with 100 in the denominator.
1. 100/80
2. 5/100
3. 75/100
4. 80/100
Answer: 4
Explanation: 4/5 × 20/20 = 80/100
Learning Outcome: 1.1 Reduce and build fractions into equivalent forms.

29) Write 17/20 as an equivalent fraction with 100 in the denominator.
1. 85/100
2. 34/100
3. 4/100
4. 100/85
Answer: 1
Explanation: 17/20 × 5/5 = 85/100
Learning Outcome: 1.1 Reduce and build fractions into equivalent forms.

30) Write 1/5 as an equivalent fraction with 25 in the denominator.
1. 25/5
2. 25/20
3. 5/25
4. 1/25
Answer: 3
Explanation: 1/5 × 5/5 = 5/25
Learning Outcome: 1.1 Reduce and build fractions into equivalent forms.

31) Write 3/4 as an equivalent fraction with 100 in the denominator.
1. 75/100
2. 80/100
3. 100/25
4. 100/75
Answer: 1
Explanation: ¾ × 25/25 = 75/100
Learning Outcome: 1.1 Reduce and build fractions into equivalent forms.

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32) Round off 6.892489 to the hundredths place.
1. 6.9
2. 6.89
3. 6.8
4. 6.892
Answer: 2
Explanation: The digit following the hundredths place is 2, so leave 6.89 alone
Learning Outcome: 1.6 Round decimal numbers to a desired number of decimal places.

33) Round off 17.456 to the tenths place.
1. 17.5
2. 17.4
3. 17.46
4. 17.56
Answer: 1
Explanation: The digits following the tenths place is 5 so add 1 to 4 yielding 17.5
Learning Outcome: 1.6 Round decimal numbers to a desired number of decimal places.

34) Round off 3.5243 to the tenths place.
1. 3.6
2. 3.4
3. 3.5
4. 3.52
Answer: 3
Explanation: The digit following the tenths place is 2 so leave the 5 alone yielding 3.5
Learning Outcome: 1.6 Round decimal numbers to a desired number of decimal places.

35) Round down 9.6723 to the tenths place.
1. 9.7
2. 9.6
3. 9.67
4. 9.72
Answer: 2
Explanation: The digit in the tenths place is 6, delete the remaining digits.
Learning Outcome: 1.6 Round decimal numbers to a desired number of decimal places.

36) Round down 4.2894 to the hundredths place.
1. 4.3
2. 4.29
3. 4.28
4. 4.2
Answer: 3
Explanation: The digit in the hundredths place is 8, delete the remaining digits.
Learning Outcome: 1.6 Round decimal numbers to a desired number of decimal places.

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37) Round down 4.0678 to the tenths place.
1. 4.0
2. 4.1
3. 4.06
4. 4.07
Answer: 1
Explanation: The digit in the tenths place is 0, delete the remaining digits.
Learning Outcome: 1.6 Round decimal numbers to a desired number of decimal places.

38) Add 4.55 and 0.035.
1. 4.9
2. 4.5035
3. 4.585
4. 4.515
Answer: 3
Explanation: Line up the decimal points and add.
Learning Outcome: 1.5 Add, subtract, multiply, and divide decimal numbers.

39) Add the following decimal numbers: 10.1 + 3.964.
1. 14.064
2. 13.974
3. 13.064
4. 14.974
Answer: 1
Explanation: Line up the decimal points and add.
Learning Outcome: 1.5 Add, subtract, multiply, and divide decimal numbers.

40) Add 4.834 + 3.962 + 1.083.
1. 8.879
2. 9.793
3. 9.879
4. 8.793
Answer: 3
Explanation: Line up the decimal points and add.
Learning Outcome: 1.5 Add, subtract, multiply, and divide decimal numbers.

41) Subtract 1.864 from 3.691.
1. 1.827
2. 1.823
3. 2.827
4. 0.827
Answer: 1
Explanation: Line up the decimal points and subtract.
Learning Outcome: 1.5 Add, subtract, multiply, and divide decimal numbers.

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42) Subtract 0.068 from 5.543.
1. 4.863
2. 5.475
3. 5.863
4. 5.5362
Answer: 2
Explanation: Line up the decimal points and subtract.
Learning Outcome: 1.5 Add, subtract, multiply, and divide decimal numbers.

43) Subtract 2.4 from 10.
1. 7.6
2. 12.40
3. 9.76
4. 12.4
Answer: 1
Explanation: Line up the decimal points and subtract.
Learning Outcome: 1.5 Add, subtract, multiply, and divide decimal numbers.

44) Solve the following problem: 3.29 × 1.64. Round off the answer to the tenths place.
1. 5.4
2. 5.3
3. 53.4
4. 54.2
Answer: 1
Explanation: 3.29 × 1.64 = 5.3956 then round off to 5.4
Learning Outcome: 1.5 Add, subtract, multiply, and divide decimal numbers.

45) Multiply 2.87 by 0.064 and round off to the hundredths place.
1. 0.19
2. 0.183
3. 0.1837
4. 0.18
Answer: 4
Explanation: 2.87 × 0.064 = 0.18368 rounded off to the hundredth place is 0.18
Learning Outcome: 1.5 Add, subtract, multiply, and divide decimal numbers.

46) Multiply 2.4 by 0.5.
1. 1.2
2. 12
3. 0.12
4. 120
Answer: 1
Explanation: 2.4 × 0.5 = 1.2
Learning Outcome: 1.5 Add, subtract, multiply, and divide decimal numbers.

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47) Solve the following problem: 0.68 ÷ 0.4.
1. 170
2. 17
3. 1.7
4. 0.17
Answer: 3
Explanation: Move the decimal point one place to the right on each number, then divide 6.8 by 4 = 1.7
Learning Outcome: 1.5 Add, subtract, multiply, and divide decimal numbers.

48) Divide 8.6 by 0.5.
1. 1.72
2. .172
3. 17.2
4. 172
Answer: 3
Explanation: Move the decimal point one place to the right on each number then divide 86 by 5 = 17.2
Learning Outcome: 1.5 Add, subtract, multiply, and divide decimal numbers.

49) Divide 8.6 by 0.02.
1. 0.172
2. 4.3
3. 430
4. 0.43
Answer: 3
Explanation: Move the decimal point two places to the right and then divide 860 by 2 = 430
Learning Outcome: 1.5 Add, subtract, multiply, and divide decimal numbers.

50) Multiply 0.089 by 1,000.
1. 89
2. 8.9
3. 0.89
4. 0.089
Answer: 1
Explanation: Move the decimal point three places to the right
Learning Outcome: 1.5 Add, subtract, multiply, and divide decimal numbers.

51) Multiply 0.84 by 100.
1. 8.4
2. 84
3. 840
4. 0.084
Answer: 2
Explanation: Move the decimal point two places to the right yielding 84.
Learning Outcome: 1.5 Add, subtract, multiply, and divide decimal numbers.

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52) Multiply 34.2 by 100.
1. 3.42
2. 342
3. 3,420
4. 34,200
Answer: 3
Explanation: Move the decimal point two places to the right yielding 3420
Learning Outcome: 1.5 Add, subtract, multiply, and divide decimal numbers.

53) Divide 0.89 by 100.
1. 8.9
2. 0.89
3. 0.089
4. 0.0089
Answer: 4
Explanation: Move the decimal point two places to the left yielding 0.0089
Learning Outcome: 1.5 Add, subtract, multiply, and divide decimal numbers.

54) Divide 1.24 by 10.
1. 0.0124
2. 0.124
3. 12.4
4. 124
Answer: 2
Explanation: Move the decimal point one place to the left yielding 0.124
Learning Outcome: 1.5 Add, subtract, multiply, and divide decimal numbers.

55) Divide 566.8 by 1,000.
1. 5,668
2. 56.68
3. 5.668
4. 0.5668
Answer: 4
Explanation: Move the decimal point three places to the left.
Learning Outcome: 1.5 Add, subtract, multiply, and divide decimal numbers.

56) Write the numbers 0.289, 0.395, 0.0289, and 0.0395 in order of size from smallest to largest.

_____
Answer: 0.0289; 0.0395; 0.289; 0.395
Explanation: Put in a column and line up the decimal points.
Learning Outcome: 1.9 Estimate answers.

57) Write the numbers 0.003, 0.034, 0.38, and 0.0003 in order of size from smallest to largest.

_____
Answer: 0.0003; 0.003; 0.034; 0.38
Explanation: Place the numbers in a column and line up the decimal points.
Learning Outcome: 1.9 Estimate answers.

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58) Write the numbers 0.3, 0.4, 0.33, and 0.111 in order of size from smallest to largest.
_____
Answer: 0.111; 0.3; 0.33; 0.4
Explanation: Place the numbers in a column and line up the decimal points.
Learning Outcome: 1.9 Estimate answers.

59) Which is larger: 0.21 or 0.7? _____
Answer: 0.7
Explanation: 0.7 is larger than 0.21.
Learning Outcome: 1.9 Estimate answers.

60) Which is larger: 2.45 or 2.6? _____
Answer: 2.6
Explanation: 2.6 is larger than 2.45.
Learning Outcome: 1.9 Estimate answers.

61) Which is largest: 0.3, 0.33, or 0.198? _____
Answer: 0.33
Explanation: 0.33 is larger than both 0.3 and 0.198.
Learning Outcome: 1.9 Estimate answers.

62) Add 5 7/8 and 3 1/4.
1. 8 3/4
2. 9 1/8
3. 9 1/4
4. 8 1/4
Answer: 2
Explanation: Convert both denominators to 8 then add 5 7/8 + 3 2/8 = 8 9/8 = 9 1/8
Learning Outcome: 1.2 Add, subtract, multiply, and divide fractions.

63) Add 6 1/2 and 2 3/8.
1. 8 7/8
2. 9
3. 8 12/16
4. 9 1/4
Answer: 1
Explanation: Convert both denominators to 8 then add 6 4/8 + 2 3/8 = 8 7/8
Learning Outcome: 1.2 Add, subtract, multiply, and divide fractions.

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64) Add 3 3/4 and 7 1/2.
1. 10 1/4
2. 10 3/4
3. 11 1/2
4. 11 1/4
Answer: 4
Explanation: Convert both denominators to 4 then add: 3 ¾ + 7 2/4 = 10 5/4 or 11 1/4
Learning Outcome: 1.2 Add, subtract, multiply, and divide fractions.

65) Subtract 1 3/4 from 2 3/8.
1. 1 3/8
2. 1 5/8
3. 5/8
4. 1
Answer: 3
Explanation: Convert both denominators to 8, then subtract 2 3/8 — 1 6/8= 5/8
Learning Outcome: 1.2 Add, subtract, multiply, and divide fractions.

66) Subtract 1½ from 4 3/4.
1. 4 1/4
2. 3 1/2
3. 2 3/4
4. 3 1/4
Answer: 4
Explanation: Convert both denominators to 4, then subtract 4 ¾ — 1 2/4 = 3 ¼
Learning Outcome: 1.2 Add, subtract, multiply, and divide fractions.

67) Subtract 2 7/8 from 7 1/4.
1. 5 5/8
2. 4 5/8
3. 4 3/8
4. 5 3/8
Answer: 3
Explanation: Convert both denominators to 8 then subtract 7 2/8 — 2 7/8
Learning Outcome: 1.2 Add, subtract, multiply, and divide fractions.

68) Solve the following problem and write the answer in lowest terms: 16/21 × 7/8 × 1/2.
1. 112/336
2. 64/147
3. 1/3
4. 1 109/147
Answer: 3
Explanation: Cancel before multiplying yielding 1/3
Learning Outcome: 1.2 Add, subtract, multiply, and divide fractions.

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69) Solve the following problem and write the answer as a mixed number in lowest terms: 7/8 × 3/4 × 3/16.
1. 63/576
2. 7/64
3. 7/256
4. 63/512
Answer: 4
Explanation: Multiply the numerators (7 × 3 × 3) = 63. Multiply the denominators (8 × 4 × 16) = 512 and place the numerator over the denominator yielding 63/512.
Learning Outcome: 1.2 Add, subtract, multiply, and divide fractions.

70) Solve the following problem and write the answer in lowest terms: 3/5 × 4/15 × 25/24.
1. 300/1,800
2. 30/180
3. 3/18
4. 1/6
Answer: 4
Explanation: Cancel before multiplying yielding 1/6
Learning Outcome: 1.2 Add, subtract, multiply, and divide fractions.

71) Solve the following problem and write the answer as a mixed number in lowest terms: 8/11 ÷ 4/9.
1. 36/99
2. 2/11
3. 1 7/11
4. 1 28/44
Answer: 3
Explanation: Invert the second fraction and multiply (8/11× 9/4 = 18/11) and change to 1 7/11
Learning Outcome: 1.2 Add, subtract, multiply, and divide fractions.

72) Solve the following problem and write the answer in lowest terms: 3/4 ÷ 7/8.
1. 21/32
2. 24/32
3. 6/7
4. 24/28
Answer: 3
Explanation: Invert the second fraction and multiply.
Learning Outcome: 1.2 Add, subtract, multiply, and divide fractions.

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73) Solve the following problem and write the answer as a whole number or fraction in the lowest terms: 3/200 ÷ 11/300.
1. 9/22
2. 3/7
3. 33/6,000
4. 900/2,200
Answer: 1
Explanation: Invert the second fraction and multiply.
Learning Outcome: 1.2 Add, subtract, multiply, and divide fractions.

74) Simplify the following complex fraction: 3/4 / 7/8.
1. 1/2
2. 2/3
3. 3/4
4. 6/7
Answer: 4
Explanation: Write as a division problem: ¾ ÷ 7/8 invert the second fraction and multiply: ¾ × 8/7 = 6/7
Learning Outcome: 1.3 Simplify complex fractions.

75) Simplify the following complex fraction: 4/5 / 8/9.
1. 2/35
2. 9/10
3. 36/40
4. 32/45
Answer: 2
Explanation: Write as a division problem: 4/5 ÷ 8/9, invert the second fraction and multiply.
Learning Outcome: 1.3 Simplify complex fractions.

76) Simplify the following complex fraction: 1/4 / 1/2.
1. 1/8
2. 1/4
3. 2
4. 1/2
Answer: 4
Explanation: Write as a division problem: 1/4 ÷ 1/2, invert the second fraction and multiply.
Learning Outcome: 1.3 Simplify complex fractions.

77) Simplify the following complex fraction and write as a mixed number in lowest terms: 4/5 / 3/4.
1. 1 1/15
2. 3/5
3. 16/15
4. 12/20
Answer: 1
Explanation: Write as a division problem: 4/5 ÷ 3/4, invert the second fraction and multiply.
Learning Outcome: 1.3 Simplify complex fractions.

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78) Simplify the following complex fraction and write in lowest terms: 1/2 / 3/4.
1. 3/8
2. 4/6
3. 2/3
4. 1 1/3
Answer: 3
Explanation: Write as a division problem: 1/2 ÷ 3/4, invert the second fraction and multiply.
Learning Outcome: 1.3 Simplify complex fractions.

79) What is 32% of 25?
1. 800
2. .78
3. 7.8
4. 8
Answer: 4
Explanation: Multiply 0.32 by 25 yielding 8
Learning Outcome: 1.8 Find the percent of a number and the percent of change.

80) What is 20% of 19?
1. 38
2. 3.8
3. 98
4. 0.95
Answer: 2
Explanation: Multiply 0.2 by 19 yielding 3.8
Learning Outcome: 1.8 Find the percent of a number and the percent of change.

81) What is 80% of 110?
1. 88
2. 1.375
3. 0.72
4. 8800
Answer: 1
Explanation: Multiply 0.8 by 110 yielding 88
Learning Outcome: 1.8 Find the percent of a number and the percent of change.

82) What is 0.87% of 30?
1. 26.1
2. 0.261
3. 2.9
4. 0.34
Answer: 2
Explanation: Multiply 0.0087 by 30 yielding 0.261
Learning Outcome: 1.8 Find the percent of a number and the percent of change.

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83) What is 20% of 50?
1. 0.4
2. 100
3. 10
4. 2.5
Answer: 3
Explanation: Multiply 0.2 by 50 yielding 10
Learning Outcome: 1.8 Find the percent of a number and the percent of change.

84) The client was taking 250 mg of ampicillin every six hours. The doctor increased the dosage to 400 mg every six hours. What percentage of change was made in the dosage? _____%
Answer: 60
Explanation: Fraction of change = change in dose/old dose = 150/250 = .6, or 60% increase in dosage.
Learning Outcome: 1.8 Find the percent of a number and the percent of change.

85) The client's dosage of Lanoxin (digoxin) was changed from 0.125 mg to 0.5 mg. What percentage was the dosage increased?
1. 0.25%
2. 40%
3. 400%
4. 300%
Answer: 4
Explanation: Fraction of change = change in dose/old dose = 0.375/0.125 = 3 0r 300% increase in dosage.
Learning Outcome: 1.8 Find the percent of a number and the percent of change.

86) A dosage is changed from 4 mg per day to 6 mg per day. Find the percentage of increase.
1. 150%
2. 67%
3. 50%
4. 33%
Answer: 3
Explanation: Fraction of change = change in dose/old dose = 2/4 = .5 or 50% increase in dosage.
Learning Outcome: 1.8 Find the percent of a number and the percent of change.

87) The old price was $19.95. The sale price is $11.97. What is the percentage discount?
1. 20%
2. 40%
3. 60%
4. 80%
Answer: 2
Explanation: Fraction of discount = Change in price/old price = 7.98/19.95 = 0.4 or 40%
Learning Outcome: 1.8 Find the percent of a number and the percent of change.

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88) The client's dosage of Tenormin (atenolol) is reduced from 75 mg to 60 mg. What is the percentage decrease?
1. 67%
2. 15%
3. 150%
4. 20%
Answer: 4
Explanation: Fraction of change = change in dose/old dose = 15/75 = .2 or 20% decrease in dosage.
Learning Outcome: 1.8 Find the percent of a number and the percent of change.

89) A dosage is changed from 12 mg per day to 9 mg per day. What is the percentage decrease?
1. 25%
2. 13%
3. 75%
4. 33%
Answer: 1
Explanation: Fraction of change = change in dose/old dose = 3/12 = .25 or 25% decrease in dosage.
Learning Outcome: 1.8 Find the percent of a number and the percent of change.

90) When rounding down to the tenths place, the number 5.34 rounds to:
1. 5.30
2. 5.3
3. 5.4
4. 5
Answer: 2
Explanation: When rounding down, add 0 to the tenths-place digit and delete the remaining digits.
Learning Outcome: 1.6 Round decimal numbers to a desired number of decimal places.

91) When rounding up to the tenths place, the number 5.34 rounds to:
1. 5.30
2. 5.3
3. 5.4
4. 5
Answer: 3
Explanation: When rounding up, add 1 to the tenths-place digit and delete the remaining digits.
Learning Outcome: 1.6 Round decimal numbers to a desired number of decimal places.

92) Which number is larger, 0.60 or 0.45?
1. 0.60
2. 0.45
Answer: 1
Explanation: Because 60 hundredths is larger than 45 hundredths, 0.60 is larger than 0.45.
Learning Outcome: 1.5 Add, subtract, multiply, and divide decimal numbers.

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93) 2/3 expressed as a percent rounded off to the nearest whole percent is:
1. 65%
2. 67%
3. 66%
4. 70%
Answer: 2
Explanation: Divide the numerator by the denominator, multiply by 100, and round to the whole number.
Learning Outcome: 1.8 Find the percent of a number and the percent of change.

94) A patient who weighed 180 lbs. has lost 25 lbs. over the last three months. What is the percentage of weight lost?
1. 13.9%
2. 13.8%
3. 1.37%
4. 0.14%
Answer: 1
Explanation: Divide the numerator by the denominator to determine the percentage, multiply by 100, and round to the whole.
Learning Outcome: 1.8 Find the percent of a number and the percent of change.

95) Mr. Grassie has had made lifestyle modifications and has been able to have his metformin (Glucophage) decreased from 1,000 mg per day to 500 mg per day. What is the percentage of the decrease of the medication dosage?
1. 30%
2. 25%
3. 50%
4. 75%
Answer: 3
Explanation: Divide the numerator by the denominator to determine the percentage. If expressing in terms of percent, the answer would be multiplied by 100.
Learning Outcome: 1.8 Find the percent of a number and the percent of change.

96) Mrs. Macron has been ordered 0.125 mg of digoxin. Her previous dose of digoxin was 0.25 mg. Has her dose of digoxin been increased or decreased?
1. Increased
2. Decreased
Answer: 2
Explanation: 0.25 is larger than 0.125.
Learning Outcome: 1.5 Add, subtract, multiply, and divide decimal numbers.

97) Put the following numbers in order from smallest to largest:
3/4, 1/3, 0.25, 0.67, 7/8, 0.45
Answer: 0.25, 1/3, 0.45, 0.67, 3/4, 7/8
Explanation: Order from smallest to largest.
Learning Outcome: 1.4 Convert between decimal numbers and fractions.

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98) Write 3.75 as a mixed number and as an improper fraction.
Answer: 3 3/4 and 15/4
Explanation: 3.75 reduced to lowest terms is 3 3/4, as an improper fraction 15/4.
Learning Outcome: 1.1 Reduce and build fractions into equivalent forms.

99) Write the following numbers in a column with the decimal points lined up. Add the numbers and round to the hundredth decimal place.
0.124, 0.363, 0.785, 0.335
Answer: Total: 1.61
Explanation: Total of numbers is 1.607, rounded to the nearest hundredth decimal place is 1.61.
Learning Outcome: 1.5, 1.6 Add, subtract, multiply, and divide decimal numbers; round decimal numbers to a desired number of decimal places.

100) Convert the fractions to decimals and add them. Round to the hundredth decimal place. Show your work.
4/5, 6/8, 1/3, 8/11, 5/16
Answer: 4/5 = 0.8
6/8 = 0.75
1/3 = 0.33
8/11 = 0.73
5/16 = 0.31

Total = 2.92
Explanation: Total of numbers is 2.9197, rounded to the hundredth decimal place answer is 2.92.
Learning Outcome: 1.4, 1.5 Convert between decimal numbers and fractions; add, subtract, multiply and divide decimal numbers.

101) Simplify and write the answer in decimal form. Round your answer to the nearest hundredth.
0.78 ÷ 3/4
Answer: 1.04
Explanation: 0.78 ÷ 0.75 = 1.04.
Learning Outcome: 1.4, 1.5, 1.6 Convert between decimal number and fractions; add, subtract, multiply, and divide decimal numbers; round decimal numbers to a desired number of decimal places.

102) Simplify and write the answer in decimal form. Round your answer to the nearest tenth.
15 × 3/8 ÷ 1/4
Answer: 22.5
15 × 0.375 ÷ 0.25 = 22.5.
Explanation: 15 × (3/8 = 0.375) ÷ (1/4 = 0.25)
Learning Outcome: 1.4, 1.5, 1.6 Convert between decimal number and fractions; add, subtract, multiply, and divide decimal numbers; round decimal numbers to a desired number of decimal places.

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Chapter

1

Review of Arithmetic for Medical Dosage Calculations

Chapter Overview

$5\frac{3}{4} \div 23$

Chapter 1 reviews the arithmetic concepts needed for the rest of the textbook. It covers the basics of whole numbers, fractions, decimal numbers, and percents and includes a Diagnostic Test to evaluate the student's knowledge of the arithmetic required for medical dosage calculation. This chapter can be omitted for those students who are proficient in basic arithmetic.

Instructor's Notes

- The **Diagnostic Test** may be used in a number of ways. It can be given at the beginning of the first class, and the teacher or students themselves can grade the test whose answers can be found in Appendix A of the textbook. The Diagnostic Test results can then be used to initiate a discussion of those areas of arithmetic in which the students show weakness.
- This chapter can also be assigned as independent study. Students can take the Diagnostic Test and then review those sections of the chapter that need review. Subsequent class meetings could address areas of student concern.
- The teacher could first present a review of basic arithmetic following the flow of topics and examples in the chapter, and then assign the Diagnostic Test for homework.
- Rather than covering all the topics in this chapter, the instructor might choose to review only those topics with which the students might not be familiar. These could include ratios, complex fractions, percent of change, and the three methods of rounding (rounding *off, down,* and *up).*
- Calculator keystroke sequences are provided to help students improve their calculator proficiency. Students should be encouraged to work the problems by hand, and then check their answers on a calculator.
- **Try These for Practice** problems are designed to be done in class but may be designated for homework.
- The **Exercises** and/or **Additional Exercises** can be given as homework or as in-class assignments. The answers to the Try These for Practice, and Exercises are in Appendix A of the textbook. Answers for Additional Exercises are not in the textbook for the instructor who prefers to give homework without answers provided.
- The answers to Additional Exercises are in this *Instructor's Resource Manual.*

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Key Terms

approximate answer
canceling
complex fraction
denominator
improper fraction
numerator
percentage
percent of change
rounding *down*
rounding *up*
rounding *off*
percentage
rate
ratio
truncating

Answers to Chapter 1 Additional Exercises

1. $\frac{11}{20}$
2. 8
3. $1\frac{1}{3}$
4. $\frac{11}{28}$
5. 40
6. $1\frac{3}{5}$
7. $\frac{1}{6}$
8. 0.37
9. 0.64
10. 6.7
11. 0.015
12. 0.21
13. 0.457
14. 0.0228
15. 2.8
16. 0.8
17. 0.9
18. 0.0625
19. 0.009
20. 1.50
21. 0.47
22. 4.7
23. 2.6
24. 53.84
25. $\frac{63}{125}$ and 0.5
26. $17\frac{1}{3}$ and 17.3
27. 0.2, $\frac{10}{49}$
28. $\frac{45}{7}$, 6.4
29. $\frac{1}{8}$, 0.1
30. $\frac{3}{8}$, 0.4
31. $\frac{1}{2}$
32. $\frac{2}{3}$
33. 60
34. 6
35. 9.95
36. 0.838
37. 0.7
38. 16
39. 25% increase
40. 30% decrease

Chapter 1 Examination Questions

Convert these to fractions in lowest terms.

1. 0.35
2. 6:10

Convert these fractions to decimals numbers rounded *off* to the nearest tenth.

3. $\frac{3}{8}$
4. $\frac{73}{7}$

Convert to decimal numbers rounded *down* to tenths.

5. $\frac{13.66}{10}$
6. $\frac{0.0274}{0.12}$

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Multiply the numbers.

7. 2.3×0.03

8. $9.2 \times 1{,}000$

Divide the decimal numbers and round *off* the answers to the nearest hundredth.

9. $0.23 \div 0.03$

10. $56.9 \div 100$

Write the answers as fractions in lowest terms.

11. $\frac{22}{15} \times \frac{70}{60} \times \frac{15}{77}$

12. $0.525 \div 0.84$

Write the percentage as a decimal number.

13. 0.9%

14. 44%

Write the percentage as a fraction in lowest terms.

15. 87.5%

16. 0.9%

Simplify to the form of a simple fraction in lowest terms.

17. $\frac{2/3}{6}$

18. $\frac{0.02}{0.3}$

19. Which is the larger quantity? 0.8 or $\frac{3}{4}$

20. What is 35% of 80?

21. $\frac{4}{5} = \frac{?}{25}$

22. $\frac{8}{64} = \frac{?}{16}$

23. $8 - 4.002 = ?$

24. Write the answer in mixed fractional form: $7.5 - 2\frac{3}{4}$

25. A dosage is increased from 8 ounces to 12 ounces. What is the percent of increase?

Answers to Chapter 1 Examination Questions

1. $\frac{7}{20}$	2. $\frac{3}{5}$	3. 0.4	4. 10.4
5. 1.3	6. 0.2	7. 0.069	8. 9,200
9. 7.67	10. 0.57	11. $\frac{1}{3}$	12. $\frac{5}{8}$
13. 0.009	14. 0.44	15. $\frac{7}{8}$	16. $\frac{9}{1{,}000}$
17. $\frac{1}{9}$	18. $\frac{1}{15}$	19. 0.8	20. 28
21. 20	22. 2	23. 3.998	24. $4\frac{3}{4}$

25. 50%

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