HESI MATH PRACTICE

Section 1

1. 389 + 454 =
A. 853
B. 833
C. 843
D. 863

2. 9,177 + 7,204 =
A. 16,471
B. 16,371
C. 16,381
D. 15,412

3. 2,199 + 5,832 =
A. 8,331
B. 8,041
C. 8,141
D. 8,031

4. 8,390 - 5,239 =
A. 3,261
B. 3,151
C. 3,161
D. 3,101

5. 643 - 587 =
A. 56
B. 66
C. 46
D. 55

6. 3,406 - 2,767 =
A. 629
B. 720
C. 639
D. 649

7. 149 × 7 =
A. 1032
B. 1043
C. 1059
D. 1063

8. 467 × 41 =
A. 19,147
B. 21,227
C. 23,107
D. 18,177

9. 309 × 17 =
A. 5,303
B. 4,913
C. 4,773
D. 5,253

10. 491 ÷ 9 =
A. 54 r5
B. 56 r6
C. 57 r5
D. 51 r3

11. 703 ÷ 6 =
A. 116 r5
B. 117 r1
C. 116 r3
D. 118 r4

12. 1518 ÷ 27 =
A. 54 r1
B. 56 r6
C. 55 r3
D. 59 r2

13. Express 71/1000 as a decimal.
A. .71
B. .0071
C. .071
D. 7.1

14. 4.7 + .9 + .01 =
A. 5.5
B. 6.51
C. 5.61
D. 5.7

15. .33 × .59 =
A. .1947
B. 1.947
C. .0197
D. .1817

16. .84 ÷ .7 =
A. .12
B. 12
C. .012
D. 1.2

17. Express the ten thousandths place in 1.7389
A. 1
B. 8
C. 9
D. 3

18. .87 - .48 =
A. .39
B. .49
C. .41
D. .37

19. Round 3.864 to the nearest tenth.
A. 3.9
B. 3.86
C. 4
D. 3.96

20. Which is the equivalent decimal number for forty nine thousandths?
A. .49
B. .0049
C. .049
D. 4.9

21. 5 + $^1/_5$ + 1 $^1/_3$ =
A. 7 $^2/_5$
B. 6 $^8/_{15}$
C. 6 $^5/_8$
D. 6 $^1/_{13}$

22. 7 $^1/_5$ 4 $^1/_3$ =
A. 3 $^1/_3$
B. 2 $^5/_8$
C. 4 $^1/_{15}$
D. 2 $^{13}/_{15}$

23. ½ × 5 $^5/_8$ × 4 =
A. 11 ¼
B. 13 ½
C. 10 ¼
D. 12 ¼

24. $^5/_8$ ÷ $^3/_4$ =
A. $^{11}/_{12}$
B. $^5/_6$
C. $^3/_{12}$
D. 1 $^1/_6$

25. Which of the following is correct?
A. 8/9 = 56/72
B. 5/9 = 25/36
C. 15/20 = 5/6
D. 20/25 = 4/5

26. Solve for x: $^x/_6$ = $^5/_{10}$
A. 7
B. 5
C. 3
D. 6

27. Reduce $^{17}/_{119}$ to lowest terms.
A. $^2/_{11}$
B. $^1/_9$
C. $^1/_{13}$
D. $^1/_7$

28. Express $^{37}/_8$ as a mixed fraction.
A. 4 $^1/_8$
B. 5 $^2/_4$
C. 4 $^5/_8$
D. 5 3/8

29. Express thirty one hundredths as a percentage.
A. 3.1%
B. 31%
C. .31%
D. .031%

30. 40% of 55 is:
A. 22
B. 20
C. 24
D. 25

Answer Key
1. C. Carrying in addition of whole numbers.
2. C. Carrying in addition of whole numbers.
3. D. Basic number facts in addition of whole numbers.
4. B. Basic number operation - subtraction of whole numbers.
5. A. Borrowing in subtraction of whole numbers.
6. C. Borrowing through zero in whole numbers.
7. B. Single digit multiplication of whole numbers.
8. A. Double digit multiplication of whole numbers.
9. D. Multiplication of whole numbers with carrying zero.
10. A. Basic short division operations with whole numbers.
11. B. Short division of whole numbers involving zero.
12. B. Long division of whole numbers.
13. C. Translating a common fraction into a decimal.
14. C. Placing the decimal point in addition.
15. A. Placing the decimal point in multiplication.
16. D. Placing the decimal point in division.
17. C. Place value of digits in decimals.
18. A. Placing the decimal point in subtraction.
19. A. Rounding decimals to a certain place value.
20. C. Converting written into numerical expression of a number.
21. B. Addition of common fractions and mixed fractions and whole numbers.
22. D. Subtraction of mixed fractions.
23. A. Multiplication of common fractions, whole numbers and mixed fractions.
24. B. Division of common fractions.
25. D. Finding equal fractions.
26. C. Solving for a variable with fractions.
27. D. Reduction of fractions.
28. C. Converting a common fraction to a mixed fraction.
29. B. Translating a word phrase into a percentage.
30. A. Calculating the percentage of a whole number.

Section 2

1. 8 is what percent of 40?
A. 10%
B. 15%
C. 20%
D. 25%

2. 9 is what percent of 36?
A. 10%
B. 15%
C. 20%
D. 25%

3. Three tenths of 90 equals:
A. 18
B. 45
C. 27
D. 36

4. .4% of 36 equals:
A. 1.44
B. .144
C. 14.4
D. 144

5. The ratio of 8:5 = (?)%
A. 75%
B. 150%
C. 175%
D. 125%

6. $^3/_5$ = (?)% x $^5/_8$
A. 75%
B. 100%
C. 78%
D. 96%

7. Express $^2/_5$ as a decimal.
A. .33
B. .3
C. .4
D. .5

8. Express .56 as a percentage.
A. 56%
B. .56%
C. 5.6%
D. .056%

9. Express $^{18}/_6$ as a percentage.
A. 300%
B. 30%
C. 150%
D. 3%

10. Express $^4/_{20}$ as a percentage.
A. 25%
B. 20%
C. 15%
D. 40%

11. $^{7.5}/_{30\%}$ = ?
A. 30
B. 35
C. 25
D. 20

12. Express .061 as a percentage.
A. .61%
B. 6.1%
C. 61%
D. .061%

13. Express the ratio of 7:25 as a percentage.
A. 20%
B. 22%
C. 25%
D. 28%

14. Express 7/16 as a percentage.
A. 43.75%
B. 41.25%
C. 42.5%

D. 45%

15. Express 17.5% as a fraction.
A. 5/28
B. 7/40
C. 6/25
D. 8/28

16. Express 125% as a decimal.
A. .125
B. 12.5
C. 1.25
D. 125

17. Solve for x: 30 is 40% of x
A. 60
B. 90
C. 85
D. 75

18. 12 ½% of x is equal to 50. Solve for x.
A. 300
B. 400
C. 450
D. 350

19. Express 24/56 as a reduced common fraction.
A. 4/9
B. 4/11
C. 3/7
D. 3/8

20. Express 87% as a decimal.
A. .087
B. 8.7
C. .87
D. 87

21. 60 is 75% of x. Solve for x.
A. 80
B. 90
C. 75
D. 70

22. 60% of x is 12. Solve for x.
A. 18
B. 15
C. 25
D. 20

23. 2b + 9b – 5b =
A. 3b
B. 6b
C. 4b
D. 8b

24. (4 Y3 – 2 Y2) + (7 Y2 + 3y - y) =
A. 4y3 + 9y2 + 4y
B. 5y3 + 5y2 + 3y
C. 4y3 + 7y2 + 2y
D. 4y3 + 5y2 + 2y

25. 7x – 9 = 47. Solve for x.
A. 8
B. 7
C. 9
D. 6

26. 6(x – 4) = 3x + 12. Solve for x.
A. 15
B. 8
C. 12
D. 14

27. 9ab2 + 8ab2 =
A. ab2
B. 17ab2
C. 17
D. 17a2b2

28. 7(2y + 8) + 1 – 4(y + 5) =
A. 10y + 36
B. 10y + 77
C. 18y + 37
D. 10y + 37

D. 6

29. 9x - 15 = 57. Solve for x.

A. 8

B. 9

C. 7

30. 5x - 6 = 7(x + 6). Solve for x.

A. 24

B. -18

C. 18

D. -24

Answer Key

1. C. Finding the percentage of one number and another.
2. D. Finding the percentage of one number and another.
3. C. Determining percent from a whole number.
4. B. Determining the fractional percentage of a number.
5. D. Determining the percentage of a ratio statement.
6. D. Percentage of a fraction and another fraction.
7. C. Converting common fraction to a decimal fraction.
8. A. Converting decimal fraction to a percentage.
9. A. Converting fraction to percent.
10. B. Converting fraction to percent.
11. C. Dividing a decimal fraction by a percentage.
12. B. Converting decimal fractions to percentages.
13. D. Converting a ratio to a percentage.
14. A. Converting a common fraction to a percentage.
15. B. Converting a percentage to a common fraction.
16. C. Converting a percentage to a decimal.
17. D. Finding a number when a percentage of it is known.
18. B. Finding a number when a percentage of it is known.
19. C. Converting a percentage to a common fraction.
20. C. Converting a percentage to a decimal.
21. A. Finding a number from a percent.
22. D. Finding a number from a percent.
23. B. Collecting similar terms (algebraic addition).
24. D. Removing parentheses, collecting similar terms (algebraic subtraction).
25. A. Solving for one unknown (involving algebraic addition and subtraction and division axioms).
26. C. Solving for one unknown (removal of parentheses through multiplication and utilization of algebraic addition, subtraction, and division axioms).
27. B. Collecting similar terms having exponents.
28. D. Removal of parentheses through multiplication followed by collecting similar terms.
29. A. Solving for an unknown (subtraction, division axioms).
30. D. Solving for one unknown through parentheses removal and followed by the use of addition and subtraction and division axioms.

Section 3

1. A goat eats 214 kg. of hay in 60 days, while a cow eats the same amount in 15 days. In how many days could they eat 214 kg. of hay together?

    1. 37.5
    2. 75
    3. 12
    4. 15
    5. 8

2. Ann went from point A to point B. Simultaneously Peter went from B to A. In 6 hours they met and in another 3 hours Peter reached B. How many hours did Ann travel from A to B?

    1. 18
    2. 9
    3. 4.5
    4. 15
    5. 12

3. In a small village called "Rose" there are 9 families with 3 children, 8 families with 2 children and 4 families having 5 children. What is the average number of children in a family?
    a. 2.5
    b. 2.8
    c. 3
    d. 3.5
    e. 4

4. The price of the book was decreased by 20% two times in one year. It now costs 180$ less than the original price. What was the original price?
    a. 252
    b. 259.2
    c. 450
    d. 500
    e. 900

5. A local football team season ticket sales have gone up 10% in the current season, reaching 880 tickets. How many season tickets were sold in the last season?
    a. 700
    b. 800
    c. 880
    d. 928
    e. 968

6. A dress costs 100$. It's price went up by 10% and then a 10% discount was offered. The current price of a dress is

    1. $90
    2. $99
    3. $100
    4. $110
    5. $111

7. A dress costs $100. 20% percent discount was offered – and then the price was increased by 20%. The current price of a dress is

    1. $80
    2. $88
    3. $96
    4. $100
    5. $120

8. A dress costs $X. 30% percent discount was offered – and then the price was increased by 30%. The current price of a dress is

    1. $ .49X
    2. $ .51X
    3. $ .77X
    4. $ .91X
    5. $X

9. A dress costs $100. The price went up by Y% - and then Y% discount was offered. The current price of a dress is

    1. $ (100-Y2)
    2. $ (100 – Y)
    3. $ (100 x (1-0.0001y2))
    4. $ (100 x (y-1))
    5. $ (100 x (100-y))

10. If Lynn can type a page in p minutes, what piece of the page can she do in 5 minutes?

1. A. 5/p
2. B. p - 5
3. C. p + 5
4. D. p/5
5. E. 1- p + 5

11. 2. If Sally can paint a house in 4 hours, and John can paint the same house in 6 hour, how long will it take for both of them to paint the house together?

   1. A. 2 hours and 24 minutes
   2. B. 3 hours and 12 minutes
   3. C. 3 hours and 44 minutes
   4. D. 4 hours and 10 minutes
   5. E. 4 hours and 33 minutes

12. Employees of a discount appliance store receive an additional 20% off of the lowest price on an item. If an employee purchases a dishwasher during a 15% off sale, how much will he pay if the dishwasher originally cost $450?

   1. A. $280.90
   2. B. $287
   3. C. $292.50
   4. D. $306
   5. E. $333.89

13. The sales price of a car is $12,590, which is 20% off the original price. What is the original price?

   1. A. $14,310.40
   2. B. $14,990.90
   3. C. $15,290.70
   4. D. $15,737.50
   5. E. $16,935.80

Answer Key

1. C
2. E
3. C
4. D
5. B
6. B
7. C
8. D
9. C
10. A
11. A
12. D
13. D

Section 4

1. Find x+y, if: 5x+8y=67 and 2x-y=31

    1. 98
    2. 46
    3. 21
    4. 14
    5. 7

2. Peter's salary is twice Ann's salary and half of David's salary. Then the average salary of Ann and David is_____Peter's salary.

    1. smaller than
    2. equal to
    3. larger than
    4. depends on salary
    5. there is no correct answer

3. Ann and Kate have 80 dollars together. If Kate buys ice-cream for 5 dollars, then Kate will have double Ann's money. How much money does Ann have?

    1. $20
    2. $25
    3. $40
    4. $50
    5. $55

4. Given: a=b+2c,   b=3c. What is the average of numbers a, b and c?
    1. c
    2. 1.5c
    3. 2c
    4. 2 1/3 c
    5. 3c

5. In a forest 4/7 of all the trees are conifer and the rest are leaf-bearing. Among the leaf-bearing trees 7/15 are oak and 2/3 of these oaks are new. There are 160 old oaks in the forest. How many trees in all are in the forest?
    1. 2400
    2. 2800
    3. 3200
    4. 3600
    5. 4000

6. Find x+y, if: 2x+3y=8 and 3x+5y=13
    1. 1.5
    2. 2
    3. 2.5
    4. 3
    5. 3.5

7. The speed of one car is 20% less than the speed of a second car. How many per cent more time does the first car need to travel the same route as the second car?
    1. 12.5%
    2. 20%
    3. 25%
    4. 30%
    5. 33 %

8. Number of boys in a class is twice the number of girls. 20% of the girls are brunettes and of the rest – half are blondes: Mary, Clara, Gina and Trisha. How many boys study in this class?
    1. 20
    2. 24
    3. 30
    4. 32
    5. 40

9. In the previous question – what part of all the students are brunette girls?
    1. 20%
    2. 1/10
    3. 1/2
    4. 1/15
    5. 15%

10. Find x+y, if: 5x+8y=67 and 2x-y=31
    1. 98
    2. 46
    3. 21
    4. 14
    5. 7

11. Peter's salary is twice Ann's salary and it is half of David's salary. Then the average salary of Ann and David is_____Peter's salary.
    1. smaller than
    2. equal to
    3. larger than
    4. depends on salary
    5. there is no correct answer

12. If the average of three numbers is V. If one of the numbers is Z and another is Y, what is the remaining number?
    1. A. ZY - V
    2. B. Z/V – 3 - Y
    3. C. Z/3 – V - Y
    4. D. 3V- Z - Y
    5. E. V- Z – Y

13. Two cyclists start biking from a trail's start 3 hours apart. The second cyclist travels at 10 miles per hour and starts 3 hours after the first cyclist who is traveling at 6 miles per hour. How much time will pass before the second cyclist catches up with the first from the time the second cyclist started biking?
    1. A. 2 hours
    2. B. 4 ½ hours
    3. C. 5 ¾ hours
    4. D. 6 hours
    5. E. 7 ½ hours

14. Jim can fill a pool carrying buckets of water in 30 minutes. Sue can do the same job in 45 minutes. Tony can do the same job in 1 ½ hours. How quickly can all three fill the pool together?
    1. A. 12 minutes
    2. B. 15 minutes
    3. C. 21 minutes
    4. D. 23 minutes
    5. E. 28 minutes

15. Mary is reviewing her algebra quiz. She has determined that one of her solutions is incorrect. Which one is it?
    1. A. $2x + 5 (x-1) = 9$ $x = 2$
    2. B. $p - 3(p-5) = 10$ $p = 2.5$
    3. C. $4 y + 3 y = 28$ $y = 4$
    4. D. $5 w + 6 w – 3w = 64$ $w = 8$
    5. E. $t – 2t – 3t = 32$ $t = 8$

Answer Key

1. 4
2. 3
3. 2
4. 5
5. 1
6. 2.5
7. 3
8. 1
9. 4
10. 4
11. 3
12. 4
13. 2
14. 2
15. 5