

Franklin Math Bowl 2007 – Grade 8 Test

1. Evaluate: 6^3
A) 216 B) 18 C) 125 D) 729
2. Simplify: $0 \div 2 + 8 \cdot 3$
A) 24 B) 26 C) 30 D) undefined
3. $[(57 - 2 \cdot 5) - 60 \div (1 + 2)] \cdot 8 = ?$
A) 200 B) 216 C) 304 D) 264
4. Evaluate $x - (y + z)$ for $x = 18$, $y = 6$, and $z = 1$.
A) 14 B) 11 C) 25 D) 264
5. Which statement is correct?
A) $-58 > -98$ B) $-58 < -98$ C) $-58 = -98$
6. Simplify: $-|7|$.
A) 0 B) 7 C) -7 D) 2.646
7. The difference between a country's exports and imports is called the country's *trade balance*. If one country had a trade balance of $-\$93$ billion in 1981, $\$144$ billion in 1988, and $-\$44$ billion in 1984, what was the total trade balance for these years?
A) $\$7$ billion B) $-\$281$ billion C) $\$281$ billion D) $-\$7$ billion
8. Ben lost $\$369$ on each of 7 consecutive days in the stock market. If he had $\$16,208$ before his loss, how much does he have after his loss?
A) $\$2583$ B) $\$13,625$ C) $\$18,791$ D) $\$15,839$
9. Evaluate $-2z^2$ for $z = -4$.
A) -32 B) 32 C) 16 D) 64
10. Find the perimeter of a regular pentagon if each side measures $5x - 8$ feet.
A) $30x - 48$ feet B) $25x - 40$ feet C) $20x - 32$ feet D) $25x - 8$ feet
11. Nine times the sum of a number and -99 is -36 . Find the number.
A) 95 B) 7 C) -103 D) -15
12. Rewrite $\frac{9v}{2}$ with a denominator of 10.
A) $\frac{45+5v}{10}$ B) $\frac{9v}{10}$ C) $\frac{45v}{10}$ D) $\frac{9v+5}{10}$
13. Find the prime factorization of 252.
A) $2^3 \cdot 3^2 \cdot 7$ B) $2^4 \cdot 7$ C) $3^4 \cdot 7$ D) $2^2 \cdot 3^2 \cdot 7$

14. A company employs 180,000 employees worldwide. About 37,800 employees work in the United States. What fraction of the employees work in the United States?

- A) $\frac{21}{10}$ B) $\frac{21}{1000}$ C) $\frac{21}{100}$ D) $\frac{10}{21}$

15. Evaluate $\left(\frac{-1}{7}\right)^5$

- A) $\frac{5}{7}$ B) $\frac{1}{16,807}$ C) $-\frac{5}{7}$ D) $-\frac{1}{16,807}$

16. Find the area of a rectangle with a length of $\frac{5}{8}$ yard and a width of 8 yards.

- A) $\frac{13}{8}$ square yards B) 5 sq. yd C) $\frac{69}{8}$ sq. yd D) $17\frac{1}{4}$ sq. yd

17. Simplify: $3 \div \left(\frac{7}{5} + \frac{7}{10}\right)$

- A) $\frac{15}{7}$ B) $\frac{10}{7}$ C) $\frac{10}{63}$ D) $\frac{45}{49}$

18. Solve the equation: $\frac{9x}{4} + 9 = \frac{1}{8}$

- A) $\frac{359}{72}$ B) $\frac{4}{9}$ C) $-\frac{287}{72}$ D) $-\frac{71}{18}$

19. Approximate the circumference of a circle with a diameter of 18 inches. Use 3.14 for π .

- A) 28.27 in. B) 254.34 in. C) 109.44 in. D) 56.52 in.

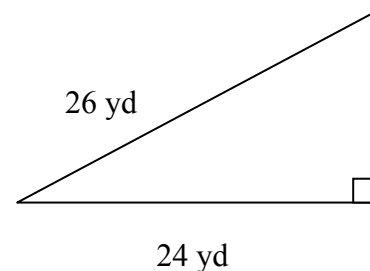
20. The annual incomes, in dollars, of several doctors are listed below. Find the median of the data.

120,000	110,000	196,000	237,000	218,000
124,000	143,000	883,000	242,000	175,000

- A) \$244,800 B) \$196,000 C) \$185,500 D) \$175,000

21. Using the given lengths of the two sides of the right triangle, find the length of the third side. Round to the nearest thousandth, if necessary.

- A) 10 yd B) 35.384 yd
C) 2 yd D) 4 yd

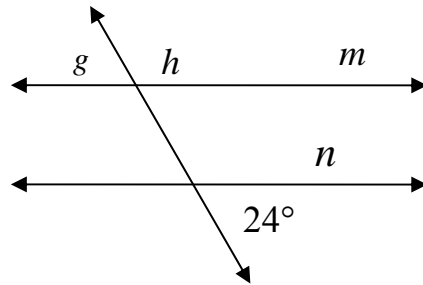


22. Determine the value of $\frac{5!}{3!}$.

- A) 5 B) 20 C) $\frac{5}{3}$ D) 2!

23. In the figure at right, m is parallel to n . Find the measure of angle h .

- A) 156° B) 24°
 C) 166° D) 114°

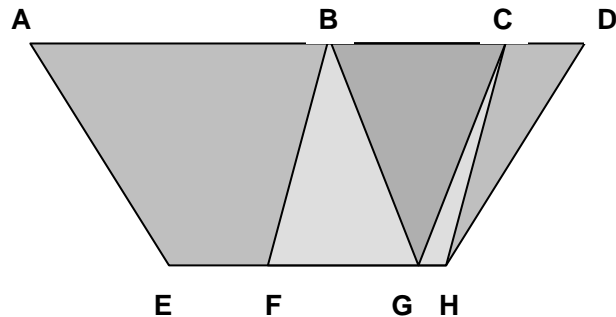


24. The set of integers is said to be *closed under addition* because the sum of any two integers is an integer. The set of integers is *not closed under division* because the quotient of some pairs of integers is not an integer. Which statement below is true about the set of even natural numbers; that is, $\{2, 4, 6, 8, \dots\}$?

- A) The set of even natural numbers is closed under addition and multiplication.
 B) The set of even natural numbers is closed under addition only.
 C) The set of even natural numbers is closed under addition and subtraction.
 D) The set of even natural numbers is closed under multiplication only.

25. Find the area of the shaded region given the following information:

- $AD = 22$ cm
- $EH = 11$ cm
- $AB = 12$ cm
- $CD = 3$ cm
- $FG = 6$ cm
- Area of $\triangle BFG = 30$ cm²
- Area of $ABFE = 80$ cm²



- A) 165 cm²
 B) 130 cm²
 C) 35 cm²
 D) 185 cm²

Answers – Franklin Math Bowl 2007 Grade 8

1. A
2. A
3. B
4. B
5. A
6. C
7. A
8. B
9. A
10. B
11. A
12. C
13. D
14. C
15. D
16. B
17. B
18. D
19. D
20. C
21. A
22. B
23. A
24. A
25. B