2014 Cindy D. Wright, Pizitz Math Tournament
Seventh Grade Ciphering

1-1 Simplify. $5x - 2(4 - x)$

1-2 Find square root of $15 \times 20 \times 12$.

1-3 Find 50% of 30% of 60.

1-4 Reduce the fraction to simplest form $\dfrac{x - \frac{1}{y}}{y - \frac{1}{x}}$

1-5 Evaluate: $\dfrac{27^{1/3} + \sqrt{9}}{16^{1/4} + \sqrt{16}}$

2-1 Simplify. $4[3x + (-2x)] - 5(3x + 2x)$

2-2. Evaluate. $\frac{32^4}{16^4}$

2-3 Compute $1 + 2 + 3 \ldots 198 + 199 + 200$.

2-4 $1.236 \times 10^{15} - 5.23 \times 10^{14}$

2-5 If $x = 4$ and $y = 9$, find $x^{\frac{1}{2}} y^{\frac{-1}{2}}$.

3-1 13 miles + 1764 feet = _____ yards

3-2 Solve for x. $-2x + 8 > 24$

3-3 Simplify. $\left[2^2 \cdot 3^3 - 3 \cdot 2^4\right] \div \left[(2 \cdot 3)^2 - 2^4\right]$

3-4 Find the reciprocal of the complement of 59°.

3-5 Write $\frac{5}{8}$ as a percent.

Answers

1-1 $7x - 8$

1-2 60

1-3 9

1-4 $\frac{x}{y}$

1-5 1

2-1 $-21x$

2-2 16

2-3 20,100

2-4 7.13×10^{14}

2-5 $\frac{2}{3}$

3-1
23,468 *or* 23,468 *yards*

3-2 $x < -8$

3-3 3

3-4 $\frac{1}{31}$

3-5 62.5% *or* $62\frac{1}{2}$%

4-1 Simplify. $(9b^3 + 5b^2 - 8) - (3b^3 - 3b^2 - 6)$

4-2 If the area of a circle is 324π, find the circumference.

4-3 Find the volume of a square pyramid with base edges 15 ft and height 8 ft.

4-4 Express the quotient of 32,654 and 16 as a decimal.

4-5 Find the number of seconds in half a week.

Extra 1 Evaluate. $\sqrt{[156 \div (4+8)]^2 - [3^2+3]^2}$

Extra 2 Find the area of the polygon with vertices $(0,4), (3,0), (0,-2), and (-5,0)$

Extra 3 Solve for c. $-5c + 9c = -20$

4-1 $6b^3 + 8b^2 - 2$

4-2 36π

4-3 $600\ or\ 600\ ft^3$

4-4 2040.875

4-5 302,400 or
302,400 seconds

Extra 1 5

Extra 2 24

Extra 3 -5