2007 Pizitz Mathematics Tournament
Eighth Grade Ciphering

1.1 Simplify: $2^2 + 2^3 - 2^4$.

1.2 Solve: $3(2x - 5) = 4(3 - x)$.

1.3 A TV priced \$800 was reduced by 30% and then again by 40%. What was the final sale price?

1.4 Find the distance between the points (– 6, 7) and (9, -1).

1.5 Simplify: $7.\overline{27} - 2.\overline{72}$.

2.1 Given $g(x) = 7 - 3x$, find g(g(g(1))).

2.2 If 6w + 5 = 13, what is the average of 5w – 7, 8 – 3w, and w + 1?

2.3 In how many ways can six friends form a line if two of the friends must be either first or second in line?

2.4 What is the area of an equilateral triangle with a perimeter of 24 ft.?

2.5 Solve: $\frac{x}{4} + \frac{3}{5} = \frac{7}{10}$.

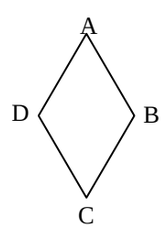
3.1 What is the average value of the six U.S. coins less than or equal to one dollar?

3.2 What is the measure of an interior angle in a regular 18-gon?

3.3 What is the sum of the slope and y-intercept given 7x – 2y = 8?

3.4 Lucy can solve 5 problems in 3 hours, while it takes Kenneth 2 hours longer. At this rate, how many hours will it take them working together to solve 1 problem?

3.5 Each side length is congruent in figure ABCD, AC = 40 cm, and the area of ABCD is 640 cm^2. What is BD?



4.1 Three squared is 2% of what number?

4.2 Write in standard notation: $\dfrac{3.14 \times 10^3}{6.28 \times 10^{-2}}$.

4.3 The sum of the exterior angle measures for a pentagon is $(x^2 - 1)°$. Find x.

4.4 Theo has \$5 more than Johnny. Johnny has \$11 more than Alex. The 3 boys have a total of \$45. How much money does Johnny have?

4.5 Simplify, and write in descending order for x: $(6x - 5)(2x + 3)$.

Ex1 A fair six-sided die is tossed twice. What are the odds of getting a 4 and then a 1?

Ex2 There are 3 consecutive odd integers such that the sum of the largest and smallest integers is 150. What is the smallest integer?

Answers

1.1 – 4

1.2 2.7, $^{27}/_{10}$ or $2\,^{7}/_{10}$

1.3 \$336

1.4 17

1.5 $4\,^{6}/_{11}$ or $4.\overline{54}$

2.1 22

2.2 2

2.3 48

2.4 $16\sqrt{3}$ or $16\sqrt{3}$ sq ft.

2.5 $^{2}/_{5}$, x = $^{2}/_{5}$, {$^{2}/_{5}$}, 0.4, x=0.4 or {0.4}

3.1 $^{191}/_{6}$ ¢, $^{191}/_{6}$ cents, $31\,^{5}/_{6}$ ¢, \$0.31$^{5}/_{6}$¢ or $31.\overline{83}$ ¢

3.2 160 or 160°

3.3 – ½ or – 0.5

3.4 $^{3}/_{8}$, $^{3}/_{8}$ hr, 0.375 or 0.375 hr.

3.5 32 or 32 cm

4.1 450

4.2 50,000

4.3 19

4.4 \$17

4.5 $12x^2 + 8x - 15$

Ex1 1 : 35 or $^{1}/_{35}$

Ex2 73