

NEW SAT 2400

Due to a process error, errata have occurred in the math sections of the *New SAT 2400*. Our apologies to our readers for the inconvenience.

PAGE NUMBERS CORRECTIONS

Page 199

Explanation for Question 2

The second expression in the equation at the bottom of the page is incorrect. The last paragraph should read:

If we run through the expression in the question stem we get.

$$\frac{2a + 6}{a^2 + 2a - 3} = \frac{2(3) + 6}{3^2 + 2(3) - 3} = \frac{12}{12} = 1$$

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Explanation for Question 6

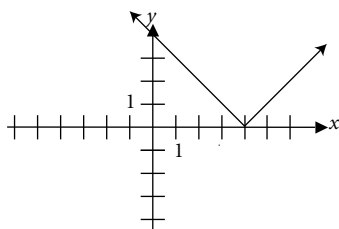
Paragraph four should read:

Now let's try (D) and assume that they each worked 60 hours. Now Employee *X* earns $(36 \times 12.50) + (24 \times 25.00) = \$1,050$, and Employee *Y* earns $(40 \times 15.00) + (20 \times 22.50) = \$1,050$.

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Question 14

The graph for answer choice (C) should be drawn as follows:



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Question 7

The question should read:

$$\frac{3\sqrt{3}}{\sqrt{2}} \times \frac{4\sqrt{3}}{3} =$$

Choice (B) should be $6\sqrt{2}$ and choice (D) should be $12\sqrt{2}$

Question 5:

The question should read:

5. If $|w + 4| = |w - 7|$, what is the value of w ?

Explanation for Question 5

The explanation should read:

Since $|w + 4| = |w - 7|$, either $w + 4 = w - 7$ or $w + 4 = -(w - 7)$. If $w + 4 = w - 7$, then $4 = -7$, which is not true, so the other possibility must be correct.

$$w + 4 = -(w - 7)$$

$$w + 4 = -w + 7$$

$$2w = 3$$

$$w = \frac{3}{2}$$

Question 6

Answer choice (C) should read:

$$(C) |x + 1| \leq 2$$

Radical and exponential equations

The second expression in the second paragraph should read:

$$x^{\frac{y}{z}} = \sqrt[z]{x^y}$$

Question 12

The question should read:

$$\frac{6a^3b^{-2}c^{-2}}{3ab^{-3}d} - \frac{abcd}{a^{-1}c^3d^2} ?$$

Question 14

The question should read:

If $3x^{\frac{3}{4}} = x$ and $x > 0$, what is the value of x ?

Explanation for Question 11

The second and third lines of the explanation should read:

You can also factor the left side of the equation in terms of \sqrt{x} as shown below.

$$x - 4\sqrt{x} + 4 = (\sqrt{x})^2 - 2(\sqrt{x})(2) + 2^2 = (\sqrt{x} - 2)(\sqrt{x} - 2)$$

The last line should read:

(Here, we actually went from the form $a^2 - 2ab + b^2$ to the form $(a - b)^2$). We let $a = \sqrt{x}$ and $b = 2$ to say that $x - 4\sqrt{x} + 4 = (x - 2)^2$.

Explanation for Question 14

The explanation should read:

Note that it is okay to divide both sides of the equation by $x^{\frac{3}{4}}$ since the question tells you that $x > 0$, which means that $x^{\frac{3}{4}} > 0$.

Question 19

The question should read:

If $x \neq -1$ and $\frac{x^2 + 2x + 1}{x + 1} > 4$, which of the following is true?

Explanation for Question 16

The explanation should read:

If we multiply out $(2x + n)^2$ using FOIL, we have $(2x + n)(2x + n) = (2x)(2x) + (2x)(n) + (n)(2x) + (n)(n) = 4x^2 + 4nx + n^2$.

So $4x^2 + kx + 25 = 4x^2 + 4nx + n^2$. Then $k = 4n$ and $25 = n^2$. Since n is positive and $n^2 = 25$, $n = 5$. Since $k = 4n$, $k = 4(5) = 20$. Thus $k = 20$ and $n = 5$. So $k + n = 20 + 5 = 25$.

Function Questions Example

The explanation should read:

$$m^3 = (-2)^3$$

Question 20

The second definition for integers c greater than 1 should read:

$$\boxed{c} = c^2 + 2c$$

Explanation for Question 20

20. C

The explanation should read:

All you need to do is plug 3 in for c in $\textcircled{c} = c^2 - 2c$ and 2 in for c in for

$$\boxed{c} = c^2 + 2c$$

$$\textcircled{3} + \boxed{2} = 3^2 - 2(3) + 2^2 = 9 - 6 + 4 + 4 = 11. \text{ (C) is the correct answer.}$$

Question 25

The question should read:

Let $\boxed{x} = \frac{x^2 + 1}{2}$ and $\textcircled{y} = \frac{3y}{2}$, for all integers x and y .

Explanation for Question 25

The explanation should read:

This symbolism problem is simpler than it looks. Replace y with 2 to find the value of m .

$$\textcircled{y} = \frac{3y}{2} \text{ becomes}$$

$$\textcircled{2} = \frac{3(2)}{2} = 3$$

Thus, $m = 3$. So $\boxed{m} = \boxed{3}$. Replace x with 3 to find the value of m .

Explanation for Question 21

The explanation should read:

The expression can be simplified as follows:

$$(c + 2)^2 - 2(c + 2) = (c^2 + 4c + 4) - (2c - 4)$$

Under **Geometric Notation**, the notation should read

\longleftrightarrow signifies a line. $\overset{\longleftrightarrow}{XY}$ is the line that passes through points X and Y .

Explanation for Question 3

The explanation should read:

Now let's consider the shaded triangle. If we call the vertical leg the height, and we let this height be h , then $\frac{h}{8} = \frac{x}{x\sqrt{3}} = \frac{1}{\sqrt{3}}$ and $h = \frac{8}{\sqrt{3}}$. Let's not rewrite $\frac{8}{\sqrt{3}}$ right now. We might obtain a cancellation or some other type of simplification later. The area of the shaded triangle is $\frac{1}{2}(8)\left(\frac{8}{\sqrt{3}}\right) = \frac{32}{\sqrt{3}}$. The ratio of the area of the shaded triangle to the area of the larger triangle, which is the probability to be found, is:

$$\frac{\frac{32}{\sqrt{3}}}{24\sqrt{3}} = \frac{32}{\sqrt{3}} \times \frac{1}{24\sqrt{3}} = \frac{32}{24 \times 3} = \frac{32}{72} = \frac{4}{9}$$

Notice that we obtained the simplification the $\sqrt{3} \times \sqrt{3} = 3$ while dividing $\frac{32}{\sqrt{3}}$ by $24\sqrt{3}$, and we saved time by not rewriting $\frac{8}{\sqrt{3}}$, which is the height of the shaded triangle.

Question 8

Choice (C) should be $\frac{\pi - 4}{16}$

Question 9

The geometric notation for the line segments MN and PQ is incorrect. The segments should be written \overline{MN} and \overline{PQ} .

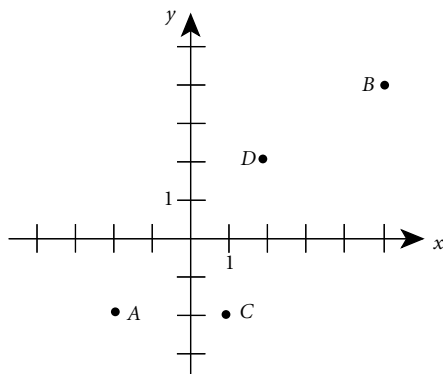
Explanation for Question 5

The explanation should read:

$$\Delta POQ\text{'s area is } \frac{1}{2}(b \times h) = \frac{1}{2}(2 \times 2).$$

Questions 16–17

The figure for these two questions should appear as follows:

**Questions 18–19**

Point Q on the figure should be labeled $Q(3, -2)$.

Explanation for Question 21

The explanation should read:

$$2 = -\frac{10}{3} + b$$

The explanations for questions 26 and 27 are reversed.

Question 10

The question should read:

If $|a + 3| = 1$ and $|b - 2| = 4$, what is one possible value for $|a + b|$?

Question 12

The question should read;

If $s(t) = t^2 - \sqrt{t} + 1$ for all positive values of t , which of the following is the value of $s(4)$?

Question 23

Answer choice (B) should read:

$$(B) y = -\frac{1}{3}x + \frac{2}{3}$$

Explanation for Question 23

The explanation should read:

Finding b : The equation of the line perpendicular to \overline{PQ} is $y = -\frac{1}{3}x + b$.

Explanation for Question 5

The explanation should read

Alternatively, you could substitute 4 for x into the equation $x^2 + cx - 24 = 0$ and then solve the resulting equation for c :

$$4^2 + c(4) - 24 = 0$$

Explanation for Question 6

The answer to question 6 is **15**.

Explanation for Question 13

Plug 8 for y into the function. Be sure to follow the order of operations and remember that $y^{\frac{4}{3}} = \sqrt[3]{y^4}$ and $y^{\frac{1}{3}} = \sqrt[3]{y}$. $g(8) = 8^{\frac{4}{3}} - 8^{\frac{1}{3}} = (\sqrt[3]{8})^4 - (\sqrt[3]{8}) = 2^4 - 2 = 16 - 2 = 14$.

Delete explanation text for 25–27

Ratios, Proportions, and Variations

The introduction should read:

The only distinction for inverse variation relationships is that, if x is inversely

proportional to y , then the fraction becomes $\frac{x}{(\text{inverse of } y)} = \frac{x}{\frac{1}{y}} = x \times y$.

Question 2

The question should read, “what was the ratio of cookies that were placed in the green tin to cookies not placed in the blue tin?”

Explanation for Question 7

The explanation should read:

Let the 1973 rate be represented by x and plug into the percent formula:

$$\text{Percent} \times \text{Whole} = \text{Part}, \text{ so } 0.8x = 4.8, x = \frac{48}{8} = 6.$$

Page 310

Explanation for Question 11

The explanation should read:

10% of the married subscribers are male, so there are $10\% \times 70 = 7$ male subscribers.

Page 316

Question 19

Answer choice (C) should read $n = 100 \times 2^{\frac{t}{2}}$

Page 317, 318

Question 20

Answer choice (C) should read $n = 1,200 (2^{\frac{t}{14}})$

Explanation for Question 20

Answer choice (D) should read: $n = 1,200(2^{14t}) = 1,200 (2^{14(14)}) = 1,200 (2^{196})$, which is much greater than 2,400. Eliminate choice (D).

Page 319

Explanation for Question 21

The last line of the explanation should read;

$$n = 100 \times 2^{\frac{52}{4}} = 100 \times 2^{13} = 100 \times 8,192 = 819,200$$

Page 322

Question 25

The question should read:

If $x \neq 3$, $y \neq -4$, and $\frac{7y-21}{y-3} = \frac{y^2 - y - 20}{y+4}$, what is the value of y ?

Page 329

Explanation for Question 3

The explanation should read:

Hypotenuse² = (length of the leg lying on the x -axis)² + (length of the leg parallel to the y -axis)² = $6^2 + 2^2 = 40$

Page 346

Explanation for Question 18

The last line of the explanation should read:

$$\frac{1}{2}(4) + 1 = 2 + 1 = 3.$$

Page 350

Explanation for Question 2

The answer for question 2 is 103.

Page 362

Explanation for Question 4

The explanation should read:

The leg of a 30–60–90 right triangle that is opposite to the 60° angle corresponds to the middle term in the $1 : \sqrt{3} : 2$ ratio.

Explanation for Question 22

The first expression should read:

$$28,800 = 450 (2^{\frac{t}{6}})$$