ARITHMETIC:
A Textbook for Math 01
3rd edition (2012)

Answers to odd numbered exercises for Chapters 3, 4, 5 by Natalia Novak

Section 3.1.1 Exercises

1. 19.01 stands for "nineteen and one hundredth"

3. 98.6 stands for "ninety eight and six tenths"

5.   (a) $2\dfrac{23}{100} = 2.23$

    (b) $\dfrac{237}{1000} = 0.237 = .237$

    (c) $19\dfrac{7}{10} = 19.7$

    (d) $\dfrac{12}{10000} = 0.0012$

Section 3.3.1 Exercises

1. $210304.0900 = 210304.09$

3. $210.00 = 210$

5. $0.2, 0.121, 0.009$

7. $0.61, 0.5, 0.106$

Section 3.4.1 Exercises

1. (a) 304.1   (b) 304.09

3. (a) 115.5   (b) 115.5

5. (a) 7   (b) 7.01

Section 3.5.1 Exercises

```
1.    1    1
      680.48
   +   56.09
   --------
      736.57

3.    58.09
    -  32.1
    --------
      25.99

5.    14.093
    -   6.39
    ---------
       7.703

7.    830
    -   16.61
    --------
      813.39
```

9. 3.)

```
   1
   25.99
+ 32.1
--------
   58.09
```

5.)

```
 11
   7.703
+ 6.39
--------
  14.093
```

7.)

```
   11 1
   813.39
+   16.61
--------
   830.00
```

11. $4.6 + 0.07 = 4.67$, then

$20 - 4.67 = 15.33$

Answer: 15.33

Section 3.6.1 Exercises

1. 60,804.8

3. 1.9

5. 8.0409

7. 0.0000908

9. 2,608,040,900

11. 0.0483

Section 3.7.1 Exercises

```
1.   64.8   1 decimal place,
    x  23   0 decimal places, so the answer should have 1 + 0 = 1 decimal place
     ------
     1944    result of multiplying 648 by 23
    +1296     result of multiplying 648 by 2
    ------
    14904   then we need to "create" one decimal place, i.e.
    1490.4   Answer

3.   26.09   2 decimal places,
    x 0.0004   4 decimal places, so the answer has 2+4=6 decimal places
    ---------
       10436
```

2

```
      0000
     0000
    0000
   0000
   ---------
   00010436
   0.010436 Answer
```

5. $100 \times 9.9 = 990$ (move decimal point two places to the right)

7.
```
     64.9    1 decimal place,
   x 0.345   3 decimal places, so the answer has 1+3=4 decimal places
   ---------
     3245
    2596
   +1947
   ---------
    223905
   22.3905 Answer
```

9. $1000 \times 0.053 = 53$

   (move decimal point 3 places to the right, remove insignificant zeros)

Section 3.8.1 Exercises

1. $91 \div 20 = 4.55$

   Here is the solution:

$$
\begin{array}{r}
4.\ \ 5\ \ 5 \\
\hline
20\ \ )\ 9\ \ 1 \\
-\ \ 8\ \ 0 \\
\hline
1\ \ 1\ \ 0 \\
-\ 1\ \ 0\ \ 0 \\
\hline
1\ \ 0\ \ 0 \\
-\ 1\ \ 0\ \ 0 \\
\hline
0
\end{array}
$$

3. $23 \div 90 = 0.2\overline{5}$

   Here is the solution:

$$
\begin{array}{r}
0.\ \ 2\ \ 5\ \ 5 \\
\hline
90\ \ )\ 2\ \ 3.\ \ 0 \\
-\ 1\ \ 8\ \ 0 \\
\hline
5\ \ 0\ \ 0 \\
-\ 4\ \ 5\ \ 0 \\
\hline
5\ \ 0\ \ 0 \\
-\ 4\ \ 5\ \ 0 \\
\hline
5\ \ 0 \\
.\ \ .\ \ .
\end{array}
$$

5. $6.02 \div 9 = 0.66\overline{8}$

7. $804.09 \div 215 = 3.74$, correct to two decimal places

9. $17 \div 19 \approx 0.895$, correct to three decimal places

Section 3.9.1 Exercises

1. $680.4 \div 1.01 = \dfrac{680.4}{1.01} = \dfrac{68040}{101} = 68040 \div 101$

3. $804.09 \div 9.18 = 80409 \div 918$

5. $4.19 \div 0.5 = 41.9 \div 5 = 8.38$

    Here is the solution:

$$
\begin{array}{r}
8.\ \ 3\ \ 8 \\
\hline
5\ )\ 4\ \ 1.\ \ 9 \\
-\ \ 4\ \ 0 \\
\hline
1\ \ 9 \\
-\ \ 1\ \ 5 \\
\hline
4\ \ 0 \\
-\ \ 4\ \ 0 \\
\hline
0
\end{array}
$$

7. $353 \div 2.5 = 3530 \div 25 = 141.2$

    Here is the solution:

$$
\begin{array}{r}
1\ \ 4\ \ 1.\ \ 2 \\
\hline
25\ )\ 3\ \ 5\ \ 3\ \ 0 \\
-\ \ 2\ \ 5 \\
\hline
1\ \ 0\ \ 3 \\
-\ \ 1\ \ 0\ \ 0 \\
\hline
3\ \ 0 \\
-\ \ 2\ \ 5 \\
\hline
5\ \ 0 \\
-\ \ 5\ \ 0 \\
\hline
0
\end{array}
$$

9. $29.997 \div 0.01 = 2999.7 \div 1 = 2999.7$

Section 3.10.1 Exercises

1. $43\% = 0.43$ (decimal point is moved two places to the left, since $43\% = \dfrac{43}{100} = 0.43$)

3. $56.04\% = 0.5604$

5. $14.09 = 1409\%$ (the decimal point is moved two decimal places to the right)

7. $1.384 = 138.4\%$

9. $44\% = \dfrac{44}{100} = \dfrac{11}{25}$

11. $0.15 = \dfrac{15}{100} = \dfrac{3}{20}$

13. $40\% = \dfrac{40}{100} = \dfrac{4}{10} = \dfrac{2}{5}$

15. $98\% = \dfrac{98}{100} = \dfrac{49}{50}$

17. $18\% = \dfrac{18}{100} = \dfrac{9}{50}$

19. $\dfrac{1}{6} \approx 0.167 = 16.7\%$

21. $\dfrac{3}{8} = 0.375 = 37.5\%$

23. $\dfrac{1}{13} \approx 0.077 = 7.7\%$

25. $\dfrac{5}{12} \approx 0.417 = 41.7\%$

Section 3.11.1 Exercises

1. 16% of $75 = 0.16 \times 75 = 12$

3. $.05$ of $280 = 0.05 \times 280 = 0.5 \times 28 = 14$

5. $\dfrac{1}{2}\%$ of $248 = 0.5\%$ of $248 = 0.005 \times 248 = 1.24$
   or
   $$\dfrac{1}{2}\% \text{ of } 248 = \dfrac{\frac{1}{2}}{100} \times 248 = \dfrac{\frac{1}{2}}{\frac{100}{1}} \times 248 = \dfrac{1}{2 \div 2} \times \dfrac{1}{100} \times \dfrac{248 \div 2}{1} = \dfrac{124}{100} = 1.24$$

7. Let's find how much is 5% of her original salary: $0.05 \times 36000 = 5 \times 360 = 1800$, hence her new salary is $\$36000 + \$1800 = \$37800$.

9. If Jose did $\dfrac{7}{8}$ of the problems correctly, then he got $\dfrac{1}{8}$ of the problems wrong, i.e. he got $\dfrac{1}{8} \times 24 = 3$ problems wrong.

Section 4.1.1 Exercises

1. 14 to $4 = \dfrac{14}{4} = \dfrac{7}{2}$

3. 56 to $21 = \dfrac{56}{21} = \dfrac{8}{3}$

5. $2\dfrac{1}{12}$ to $1\dfrac{1}{4} = \dfrac{25}{12}$ to $\dfrac{5}{4} = \dfrac{\frac{25}{12}}{\frac{5}{4}} = \dfrac{25}{12} \times \dfrac{4}{5} = \dfrac{5}{3}$

7. 1.69 to $2.6 = \dfrac{1.69}{2.6} = \dfrac{169}{260} = \dfrac{13 \times 13}{26 \times 10} = \dfrac{13}{2 \times 10} = \dfrac{13}{20}$

9. 8 inches to $5\dfrac{1}{2}$ feet $= 8$ inches to $\dfrac{11}{2} \times 12$ inches $= \dfrac{8}{66} = \dfrac{4}{33}$

Section 4.2.3 Exercises

1. $x = \dfrac{5 \cdot 3}{1} = 15$

3. $y = \dfrac{5 \cdot 20}{100} = \dfrac{100}{100} = 1$

5. $B = \dfrac{2 \cdot 11}{1} = 22$

7. $s = \dfrac{3 \cdot 4}{13} = \dfrac{12}{13}$

9. $P = \dfrac{75 \cdot 100}{125} = \dfrac{15 \cdot 100}{25} = \dfrac{15 \cdot 4}{1} = 60$

Section 4.3.1 Exercises

1. A= 12, P = 20, B = ?

   $\dfrac{12}{B} = \dfrac{20}{100}$, so $B = \dfrac{12 \cdot 100}{20} = 12 \cdot 5 = 60$ **Answer:** 60

3. A= 12, P = 40, B = ?

   $\dfrac{12}{B} = \dfrac{40}{100}$, so $B = \dfrac{12 \cdot 100}{40} = 3 \cdot 10 = 30$ **Answer:** 30

5. A = 90, B = 300, P = ?

   $\dfrac{90}{300} = \dfrac{P}{100}$, so $P = \dfrac{100 \cdot 90}{300} = \dfrac{1 \cdot 90}{3} = 30$ **Answer:** 30%

7. A = ?, B = 600, P = 125

   $\dfrac{A}{600} = \dfrac{125}{100}$, so $A = \dfrac{600 \cdot 125}{100} = 6 \cdot 125 = 750$ **Answer:** 750

9. A = 250, B = 325, P = ?

   $\dfrac{250}{325} = \dfrac{P}{100}$, so $P = \dfrac{250^{\div 25} \cdot 100}{325_{\div 25}} = \dfrac{1000}{13} = 75\dfrac{12}{13} \approx 76.9$ **Answer:** 76.9%

11. A= 93, P = 62, B = ?

    $\dfrac{93}{B} = \dfrac{62}{100}$, so $B = \dfrac{93 \cdot 100}{62} = 150$ **Answer:** The team played 150 games

13. A = 4, 480, B = 56, 000, P = ?

    $\dfrac{4480}{56000} = \dfrac{P}{100}$, so $P = \dfrac{4480 \cdot 100}{56000} = \dfrac{448 \cdot 1}{56} = 8$ **Answer:** Her salary increased by 8%

Section 4.4.1 Exercises

1. Let's set up a proportion:

   $\dfrac{3}{4}$ in. represents 14 miles.

   x in. represent 42 miles.

   One way to set up a proportion (as ratios): $\dfrac{\frac{3}{4} \text{ in}}{x \text{ in}} = \dfrac{14 \text{ mi}}{42 \text{ mi}}$,

   another way (as rates): $\dfrac{\frac{3}{4} \text{ in}}{14 \text{ mi}} = \dfrac{x \text{ in}}{42 \text{ mi}}$

   Using any of the proportions and cross-produce property, we will get: $\dfrac{3}{4} \cdot 42 = 14x$,

   by dividing both part by 14 we will get: $\dfrac{\frac{3}{4} \cdot 42}{14} = x$, or $x = \dfrac{\frac{3}{4} \cdot 42}{14} = \dfrac{\frac{3}{4} \cdot \frac{42}{1}}{\frac{14}{1}} = \dfrac{3 \cdot 42^{\div 7}}{4} \cdot \dfrac{1}{14_{\div 7}} =$

   $\dfrac{3 \cdot 6}{4 \cdot 2} = \dfrac{3 \cdot 3}{4 \cdot 1} = \dfrac{9}{4} = 2\dfrac{1}{4}$ in

   Answer: The two cities are $2\dfrac{1}{4}$ in apart on the map.

3. summary:

$2000 earns $48,

x earns $200.

$$\frac{2000}{x} = \frac{48}{200}, \quad \text{or} \quad \frac{2000}{x} = \frac{12}{50}, \quad \text{or} \quad \frac{2000}{x} = \frac{6}{25}, \quad \text{so} \quad 2000{\cdot}25 = 6x, \quad \text{and} \quad x = \frac{2000 \cdot 25}{6},$$

or $\quad x = \dfrac{1000 \cdot 25}{3} = \dfrac{25000}{3} \approx 8333(\$)$

Answer: Approximately $8333 would need to be invested.

5. summary:

$\dfrac{21}{5} = \dfrac{\texttt{weight of lead}}{\texttt{weight of aluminum}}$, and a bar of aluminum (15 lb)

$\dfrac{21}{5} = \dfrac{x}{15}, \quad \text{so} \quad 21 \cdot 15 = 5x \quad \text{or} \quad x = \dfrac{21 \cdot 15}{5} = 63$ (lb)

Answer: A bar of lead of the same size weighs 63 pounds.

Section 4.5.1 Exercises

1. Let's use $\dfrac{1.6}{x} = \dfrac{1}{3}$, so $1.6 \cdot 3 = x \quad \text{or} \quad x = 4.8$

3. Let's use $\dfrac{1.4}{x} = \dfrac{1}{4}, \quad \text{so} \quad 1.4 \cdot 4 = x \quad \text{or} \quad x = 5.6$

5. Let's use $\dfrac{x}{1\frac{1}{4}} = \dfrac{8}{4} \quad \text{or} \quad \dfrac{x}{\frac{5}{4}} = \dfrac{2}{1} \quad \text{or} \quad \dfrac{\frac{x}{1}}{\frac{5}{4}} = \dfrac{2}{1} \quad \text{or} \quad \dfrac{x}{1} \cdot \dfrac{4}{5} = \dfrac{2}{1} \quad \text{or} \quad \dfrac{4x}{5} = \dfrac{2}{1}$, so $4x = 5 \cdot 2$

or $\quad x = \dfrac{10}{4} = \dfrac{5}{2} = 2.5$

7. Let's use $\dfrac{x}{2\frac{2}{5}} = \dfrac{8}{3} \quad \text{or} \quad \dfrac{x}{\frac{12}{5}} = \dfrac{8}{3} \quad \text{or} \quad \dfrac{5x}{12} = \dfrac{8}{3}, \quad \text{so} \quad 15x = 12 \cdot 8 \quad \text{or} \quad x = \dfrac{12 \cdot 8}{15} =$

$\dfrac{4 \cdot 8}{5} = \dfrac{32}{5} = 6\dfrac{2}{5} = 6.4$ m.

9. summary:

6 foot tall man casts 8 foot shadow,

32 foot tree casts x foot shadow

So let's use $\dfrac{6}{8} = \dfrac{32}{x} \quad \text{or} \quad \dfrac{3}{4} = \dfrac{32}{x}, \quad \text{so} \quad 3x = 4 \cdot 32 \quad \text{or} \quad x = \dfrac{4 \cdot 32}{3} = \dfrac{128}{3} = 42\dfrac{2}{3}$ ft.

Answer: The shadow of the tree is $42\frac{2}{3}$ ft long.

Section 5.1.1 Exercises

1. $(-6) + 19 = 13$ $\qquad$ (different signs; subtract, choose sign)

3. $(-34)+(-28) = -62$ $\qquad$ (same signs; add, keep the sign)

5. $5\dfrac{3}{5} + \left(-4\dfrac{1}{2}\right) = 1\dfrac{1}{10}$

5-4 = 1

$\dfrac{3}{5} - \dfrac{1}{2} = \dfrac{6}{10} - \dfrac{5}{10} = \dfrac{1}{10}$

7. $(-1001.36) + 909 = -92.36$ $\qquad$ (different signs; subtract, choose sign)

9. $\left(-\dfrac{5}{6}\right) + (-5) = -5\dfrac{5}{6}$

11. $(-11) + 36 = 25$.   **Answer:** The temperature at noon in Anchorage was 25° F

Section 5.1.3 Exercises

1. -0.062

3. $-\left(-\left(-\dfrac{2}{7}\right)\right) = -\dfrac{2}{7}$

5. $-\pi + \pi = 0$

7. $(-5) + (-5) = -10$

9. $-9.1 + (-9.1) = -18.2$

11. $0 + 5.5 = 5.5$

Section 5.1.5 Exercises

1. $1 + (-1) + 1 + (-1) + 1 + (-1) = 3 + (-3) = 0$

3. $44 + (-5.5) + 28.8 + 36 + (-19.1) + (-8) = 108.8 + (-32.6) = 76.2$

5. $\left(-6\dfrac{3}{8}\right) + 4\dfrac{3}{4} + \left(-2\dfrac{1}{2}\right) + \dfrac{7}{8} = 4\dfrac{3}{4} + \dfrac{7}{8} - \left(6\dfrac{3}{8} + 2\dfrac{1}{2}\right) = 5\dfrac{5}{8} - 8\dfrac{7}{8} = -3\dfrac{2}{8} = -3\dfrac{1}{4}$

7. $18.50 + (-21.25) + (-69.95) + 13.50 + 79.99 + (-86.50) = 111.99 + (-177.70) = -65.71$

9. $(-8) + 2 + (-3) + (-5) + 1 + 4 + 9 = 15 + (-16) = -1$

    Therefore, the average temperature for the first week is $-\dfrac{1}{7}^{\circ}$ F.

Section 5.2.1 Exercises

1. $7 - 31 = -24$

3. $.65 - (-6.4) = 0.65 + 6.4 = 7.05$

5. $68.6 - (-53) = 68.6 + 53 = 121.6$

7. $\dfrac{1}{5} - 2.2 = 0.2 - 2.2 = -2$

9. $-87 - (-23) = -87 + 23 = -64$

11. $5\dfrac{3}{8} - (-11) = 16\dfrac{3}{8}$

13. $-2.5 - 1\dfrac{4}{5} = -2\dfrac{5}{10} - 1\dfrac{4}{5} = -2\dfrac{5}{10} - 1\dfrac{8}{10} = -3\dfrac{13}{10} = -4\dfrac{3}{10}$

15. $100°\text{C} - (-5°)\ \text{C} = 105°\text{C}$

Section 5.3.1 Exercises

1. $8 \times (-6) = -48$

3. $(-6) \times (-9) = 54$

5. $91.4 \times (-1) = -91.4$

7. $(-1) \times (-1) = 1$

9. $6.5 \times (-31) = -201.5$

11. $\left(\dfrac{7}{9}\right) \times 0 = 0$

13. $\left(-1\dfrac{6}{7}\right)\left(-1\dfrac{1}{2}\right) = \dfrac{13}{7} \times \dfrac{3}{2} = \dfrac{39}{14} = 2\dfrac{11}{14}$

15. $1(-1) = -1$

17. $(-3)(0.5)(-0.7)(1) = 3 \times 0.35 = 1.05$

19. $(-6)(-5)(-4)(-3)(0) = 0$

Section 5.4.2 Exercises

1. $(-24) \div (-8) = 3$

3. $66 \div 0 = undefined$

5. $(-30) \div 6 = -5$

7. $\dfrac{-19}{0} = undefined$

9. $\dfrac{9.5}{-1.9} = -5$

11. $0 \div (-1000) = 0$

13. $\left(-4\dfrac{1}{2}\right) \div \left(-1\dfrac{7}{8}\right) = \dfrac{9}{2} \div \dfrac{15}{8} = \dfrac{9}{2} \times \dfrac{8}{15} = \dfrac{9 \div 3}{2 \div 2} \times \dfrac{8 \div 2}{15 \div 3} = \dfrac{12}{5} = 2\dfrac{2}{5}$

15. $100 \div \dfrac{1}{4} = \dfrac{100}{1} \times \dfrac{4}{1} = 400$

17. $.5 \div .4 = 0.5 \div 0.4 = 5 \div 4 = 1.25$

Section 5.5.1 Exercises

1. $8^2 = 8 \cdot 8 = 64$

3. $-8^2 = -(8 \cdot 8) = -64$

5. $(-6)^3 = (-6) \cdot (-6) \cdot (-6) = -216$

7. $\left(-\dfrac{2}{5}\right)^3 = \left(-\dfrac{2}{5}\right) \cdot \left(-\dfrac{2}{5}\right) \cdot \left(-\dfrac{2}{5}\right) = -\dfrac{8}{125}$

9. $-(-2)^4 = -((-2) \cdot (-2) \cdot (-2) \cdot (-2)) = -16$

11. $(10)^0 = 1$, by definition

13. $(-23)^0 = 1$, by definition

15. $(-1)^{59} = -1$ (odd power preserves the sign)

17. $\left(2\dfrac{1}{2}\right)^2 = \dfrac{5}{2} \cdot \dfrac{5}{2} = \dfrac{25}{4} = 6\dfrac{1}{4}$

Section 5.6.1 Exercises

1. $\sqrt{9} = 3$, because $3^2 = 9$

3. $\sqrt{-25} = undefined$ (what should we square to get -25?)

5. $\sqrt{\dfrac{81}{4}} = \dfrac{\sqrt{81}}{\sqrt{4}} = \dfrac{9}{2} = 4\dfrac{1}{2}$

7. $\sqrt{100} = 10$

9. $-\sqrt{\dfrac{25}{36}} = -\dfrac{\sqrt{25}}{\sqrt{36}} = -\dfrac{5}{6}$

11. $-\sqrt{\dfrac{1}{16}} = -\dfrac{\sqrt{1}}{\sqrt{16}} = -\dfrac{1}{4}$

11. The closest numbers to 7 (from the left and from the right) that are 'extractable' are 4 and 9, therefore $\sqrt{4} < \sqrt{7} < \sqrt{9}$, or $2 < \sqrt{7} < 3$.

   Answer: between 2 and 3

13. $-\sqrt{36} < -\sqrt{30} < \sqrt{25}$, or $-6 < -\sqrt{30} < -5$

   Answer: between -6 and -5

15. $\sqrt{12} < \sqrt{15}$

Section 5.7.1 Exercises

1. $2a - b = 2 \cdot 11 - (-5) = 22 + 5 = 27$

3. $-6x^2 = -6 \cdot \left(-\dfrac{2}{3}\right)^2 = -6 \cdot \dfrac{4}{9} = -\dfrac{6}{1} \cdot \dfrac{4}{9} = -\dfrac{6^{\div 3}}{1} \cdot \dfrac{4}{9_{\div 3}} = -\dfrac{8}{3} = -2\dfrac{2}{3}$

5. $a - ab - b = (-0.6) - (-0.6) \cdot 0.8 - 0.8 = -0.6 + 0.48 - 0.8 = -1.4 + 0.48 = -0.92$

7. $(d-e)(d^2+ed+e^2) = ((-1)-(-4))((-1)^2+(-1)(-4)+(-4)^2) = (-1+4)(1+4+16) = 3 \cdot 21 = 63$

9. $2pq - q^2 = 2 \cdot 1.2 \cdot 2.3 - 2.3^2 = 5.52 - 5.29 = 0.23$

11. $\sqrt{x^2+y^2} = \sqrt{\left(\dfrac{2}{3}\right)^2 + \left(-\dfrac{1}{2}\right)^2} = \sqrt{\dfrac{4}{9} + \dfrac{1}{4}} = \sqrt{\dfrac{16+9}{36}} = \sqrt{\dfrac{25}{36}} = \dfrac{\sqrt{25}}{\sqrt{36}} = \dfrac{5}{6}$

Section 5.8.1 Exercises

1. Area is $4.8 \times 3.6 = 17.28$ square meters.

3. Length of the hypotenuse is $\sqrt{(0.3)^2 + (0.4)^2} = \sqrt{0.09 + 0.16} = \sqrt{0.25} = 0.5$ yards.

   Why is $\sqrt{0.25} = 0.5$? Probably easiest to see with fractions: $\sqrt{0.25} = \sqrt{\dfrac{1}{4}} = \dfrac{\sqrt{1}}{\sqrt{4}} = \dfrac{1}{2} = 0.5$. Of course we can check that $(0.5)^2 = 0.25$ too.

5. $F = \dfrac{9}{5} \cdot \dfrac{22}{1} + 32 = \dfrac{198}{5} + 32 = 39\dfrac{3}{5} + 32 = 71\dfrac{3}{5} = 71.6$. **Answer:** $22°$C is $71.6°$F.

7. $A = 500(1 + 0.05)^2 = 500(1.05)^2 = 500 \cdot 110.25 = 551.25$. **Answer:** The amount if money in the bank after 2 years is \$551.25

Section 5.9.2 Exercises

1. $y = 2$ is not a solution because $2 + 1.6$ is not equal to 14.4

3. $x = 19 + 5 = 24$

5. $x = 45 \div 9 = 5$

7. $y = -19$

9. $t = 0$

11. $y = 7.4$

13. If the number we want is x then we need to solve $12x = 108$. Divide both sides by 12 to get $x = 9$.
   Answer: The number is 9