Answers

To the *Learn Math Fast System*
Placement Test

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1.   8
    + 3
    11

2.   10
    - 7
    3

3.   17
    +5
    22

4.   8 + 7 = **15**

5.   18 – 9 = **9**

DID YOU ANSWER ALL 5 OF THESE PROBLEMS CORRECTLY?
If yes, then you have passed 1st grade math.
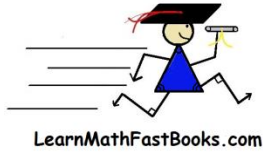If not, then you need Volume 1 of the *Learn Math Fast System.*

6.   18 + 24 = **42**

7.   142
    - 59
    83

8.   4006
    - 287
    3719

9.   6,247.80
    - 368.24
    5,879.56

10.   63
    48
    77.2
    53
    +19
    260.2

DID YOU ANSWER ALL 10 OF THESE PROBLEMS CORRECTLY?
If yes, then you have passed 2nd grade math.
If not, then you need Volume 1 of the *Learn Math Fast System.*

11.   9 x 7 = **63**

$$\overline{}$$
1633.08̄3̄

12.   12.)19597.0000   13.   200 x 40 = **8,000**   14.   17.003
    -12   x 23.5
    75   85015
   - 72   510090
    39   +3400600
   -36   **399.5705**
    37
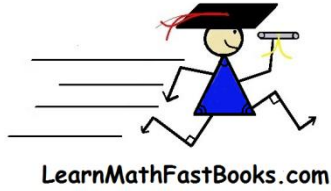   -36
    100
    -96
     40
    -36
     40

10,759,863,422.

15.   Which number is in the Ten Thousands column?   **6**
Which number is in the One Hundred Millions column?   **7**
Which column has a 0 in it?   **The Billions**

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16. $\dfrac{2}{3} - \dfrac{2}{6} = \dfrac{2}{6} = \dfrac{1}{3}$ 17. $\dfrac{4}{7} \div \dfrac{3}{4} = \dfrac{16}{21}$ 18. $3\dfrac{9}{24} + 2\dfrac{8}{12} = 5\dfrac{25}{24} = 6\dfrac{1}{24}$

19. $6\dfrac{1}{3} \times 2\dfrac{1}{2} = \dfrac{19}{3} \times \dfrac{5}{2} = \dfrac{95}{6} = 15\dfrac{5}{6}$ 20. How much is 20% of 870? **174**

DID YOU ANSWER ALL 20 OF THESE PROBLEMS CORRECTLY?
If yes, then you have passed 4th grade math.
If not, then you need Volume 2 of the *Learn Math Fast System.*
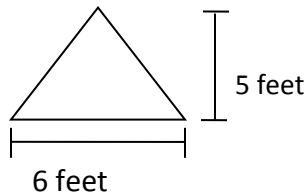
21. Write 38% as a decimal number.   **.38**

22. Write 45 cents as a fraction. $\dfrac{45}{100} = \dfrac{9}{20}$

23. -8 + -15 = **-23**

Be sure to always reduce your answer down to the smallest possible denominator.

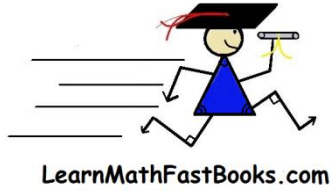24. $-\dfrac{6}{8} \div 3 = -\dfrac{6}{8} \times \dfrac{1}{3} = -\dfrac{6}{24} = -\dfrac{1}{4}$

25. What is the area of the triangle below?   **15 square feet**

5 feet

6 feet

DID YOU ANSWER ALL 25 OF THESE PROBLEMS CORRECTLY?
If yes, then you have passed 5th grade math.
If not, then you need Volume 2 of the *Learn Math Fast System.*

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26. $\frac{6}{36} = \frac{x}{12}$ $36x = 72$

$$\frac{36x}{36} = \frac{72}{36}$$
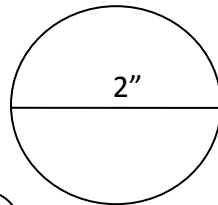
$$x = \mathbf{2}$$

27. $8^2 = \mathbf{64}$

28.   Find the circumference and area of the circle below?   **Circumference = 6.28"**

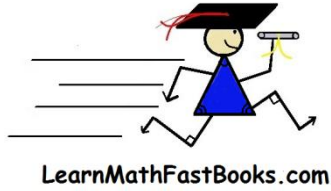**Area = 3.14 square inches**

2"

29.   Circle the bigger fraction? $\left(\frac{32}{45}\right) or \quad \frac{2}{3}$

30. $5^3 + \sqrt{121} = 125 + 11 = \mathbf{136}$

DID YOU ANSWER ALL 30 OF THESE PROBLEMS CORRECTLY?
If yes, then you have passed 6th grade math.
If not, then you need Volumes 3 & 4 of the *Learn Math Fast System*.

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31.   3x = 24

$$x = 8$$

32. $\dfrac{56}{x} = 8$

$$x = 7$$

33. $3x + 9 = 30$

$3x = 30 - 9$

$3x = 21$

$$x = 7$$

Use the proper Order of Operations to solve for x.
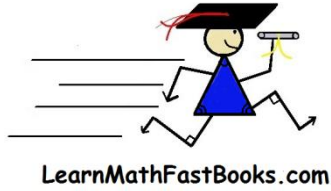
34. $3 \cdot 4^2 + 5 \cdot 5 - \sqrt{4} \cdot 4 = x$

$$x = 65$$

Solve for x in terms of y.

35.   5 + x = y

$$x = y - 5$$

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Use the Slope Formula to solve the slope of the line formed with the following coordinates.

Slope formula $\quad m = \dfrac{y_2 - y_1}{x_2 - x_1}$

36. (3, 2) and (5, 5) $\qquad m = \dfrac{3}{2}$

37. Use the slope and the coordinates from problem #36 to find the Y-intercept of that line.

    Use $y = mx + b$ to find the Y-intercept.
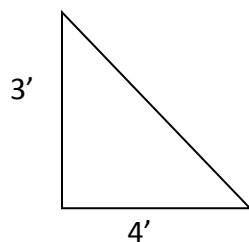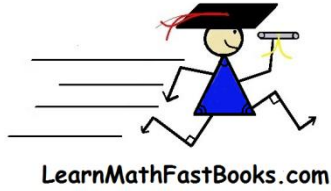
    $$2 = \frac{3}{2} \cdot 3 + b$$

    $$2 = \frac{9}{2} + b$$

    $$2 - \frac{9}{2} = b$$
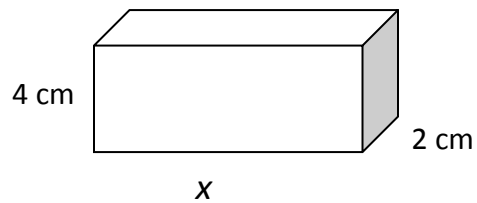
    $$b = -\frac{5}{2}$$

38. What is the length of the hypotenuse in the triangle below?   **5 feet**

3′

4′

39.   The cube below is 64cm^3. Solve for x. $x = 8\ cm$

4 cm

2 cm

x

40.   Find the volume of a sphere with a radius of 3". Use the volume formula $v = \dfrac{4}{3}\pi r^3$.
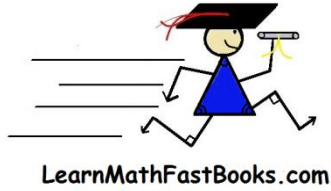
$v = \dfrac{4}{3} \cdot 3.14 \cdot 27$

$v = 113.04\ in\ ^3$

DID YOU ANSWER ALL 40 OF THESE PROBLEMS CORRECTLY?

If yes, then you have passed 8th grade math and you are ready for Volume 5 of the *Learn Math Fast System*. If not, then you need to start with Volumes 3 & 4 of the *Learn Math Fast System.*

41.   Solve for x below.

$$|{-25}| + |x| = |30|$$
$$x = 30 - 25$$
$$x = 5$$

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42. Simplify the expression below.

$$\frac{\overset{1}{\cancel{5}}ab+\overset{1}{\cancel{5}}b}{\underset{1}{\cancel{5}}} = \frac{ab+b}{1} = \boldsymbol{ab + b}$$
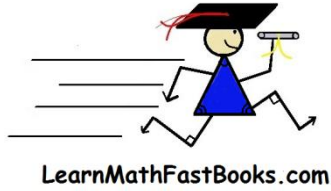
43. Use the Distributive Property of Multiplication to simplify the problem below.

$$(y + 2)(y - 4)$$
$$y^2 - 4y + 2y - 8$$
$$\boldsymbol{y^2 - 2y - 8}$$

44. Factor the quadratic below.

$$x^2 + 8x + 15$$

$$(x + 3)(x + 5)$$

45. Solve for x by completing the square. Hint: $\left(\frac{b}{2}\right)^2$

$$\left(\frac{b}{2}\right)^2 = \left(\frac{-2}{2}\right)^2 = 1$$

$$x^2 - 2x - 2 = 0$$

$$x^2 - 2x = 2$$

$$x^2 - 2x + 1 = 2 + 1$$

$$x^2 - 2x + 1 = 3$$

$$(x - 1)(x - 1) = 3$$

$$(x - 1)^2 = 3$$

$$x - 1 = \pm\sqrt{3}$$

$$\boldsymbol{x = \pm\sqrt{3} + 1}$$

If you answered all 45 questions correctly, then you have completed Algebra I. You should start with Volume 6 of the Learn Math Fast System.