

Answers

To the *Learn Math Fast System* Placement Test

1.
$$\begin{array}{r} 8 \\ + 3 \\ \hline 11 \end{array}$$
2.
$$\begin{array}{r} 10 \\ - 7 \\ \hline 3 \end{array}$$
3.
$$\begin{array}{r} 17 \\ + 5 \\ \hline 22 \end{array}$$
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.

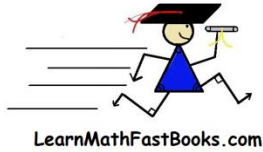
If not, then you need Volume 1 of the *Learn Math Fast System*.

6. $18 + 24 = 42$
7.
$$\begin{array}{r} 142 \\ - 59 \\ \hline 83 \end{array}$$
8.
$$\begin{array}{r} 4006 \\ - 287 \\ \hline 3719 \end{array}$$
9.
$$\begin{array}{r} 6,247.80 \\ - 368.24 \\ \hline 5,879.56 \end{array}$$
10.
$$\begin{array}{r} 63 \\ 48 \\ 77.2 \\ 53 \\ + 19 \\ \hline 260.2 \end{array}$$

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*.



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11. $9 \times 7 = 63$

12.
$$\begin{array}{r} 1633.08\overline{33} \\ 12 \overline{)19597.0000} \\ \underline{-12} \\ 75 \\ \underline{-72} \\ 39 \\ \underline{-36} \\ 37 \\ \underline{-36} \\ 100 \\ \underline{-96} \\ 40 \\ \underline{-36} \\ 40 \end{array}$$

13. $200 \times 40 = 8,000$

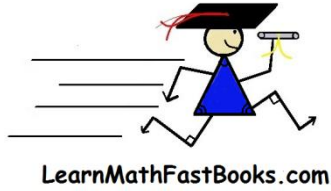
14. 17.003

$$\begin{array}{r} 23.5 \\ \times 17.003 \\ \hline 510090 \\ 85015 \\ \hline +3400600 \\ \hline \mathbf{399.5705} \end{array}$$

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**

DID YOU ANSWER ALL 15 OF THESE PROBLEMS CORRECTLY?
If yes, then you have passed 3rd grade math.
If not, then you need Volume 1 of the *Learn Math Fast System*.



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16. $\frac{2}{3} - \frac{2}{6} = \frac{2}{6} = \frac{1}{3}$

17. $\frac{4}{7} \div \frac{3}{4} = \frac{16}{21}$

18. $3\frac{9}{24} + 2\frac{8}{12} = 5\frac{25}{24} = 6\frac{1}{24}$

19. $6\frac{1}{3} \times 2\frac{1}{2} = \frac{19}{3} \times \frac{5}{2} = \frac{95}{6} = 15\frac{5}{6}$

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**

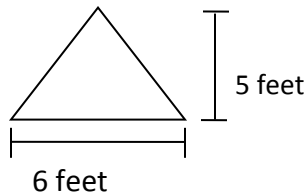
22. Write 45 cents as a fraction. $\frac{45}{100} = \frac{9}{20}$

23. $-8 + -15 = -23$

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

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

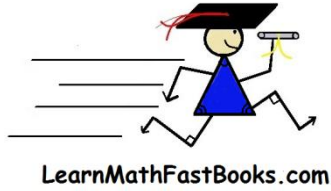
25. What is the area of the triangle below? **15 square feet**



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

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

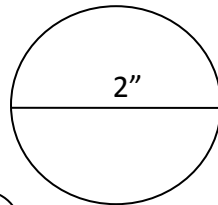
$$x = 2$$

27. $8^2 = 64$

28. Find the circumference and area of the circle below?

Circumference = 6.28"

Area = 3.14 square inches



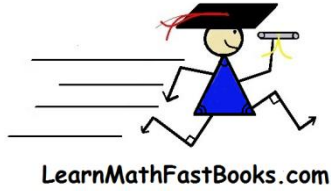
29. Circle the bigger fraction? $\frac{32}{45}$ or $\frac{2}{3}$

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

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. $\frac{56}{x} = 8$

$x = 7$

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.

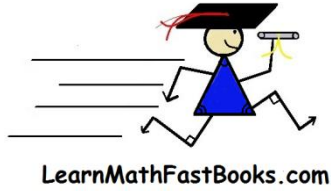
35. $5 + x = y$

$x = y - 5$

DID YOU ANSWER ALL 35 OF THESE PROBLEMS CORRECTLY?

If yes, then you have passed 7th grade math.

If not, then you need Volume 3 of the *Learn Math Fast System*.



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

$$\text{Slope formula } m = \frac{y_2 - y_1}{x_2 - x_1}$$

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

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.

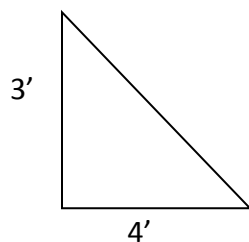
$$2 = \frac{3}{2} \cdot 3 + b$$

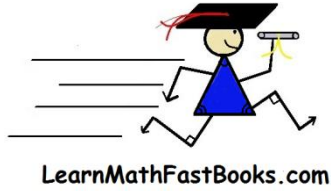
$$2 = \frac{9}{2} + b$$

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

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

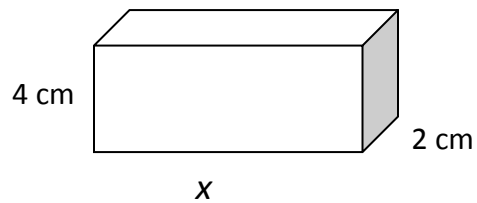
38. What is the length of the hypotenuse in the triangle below? **5 feet**





39. The cube below is 64cm^3 . Solve for x .

$$x = 8 \text{ cm}$$



40. Find the volume of a sphere with a radius of $3''$. Use the volume formula $v = \frac{4}{3}\pi r^3$.

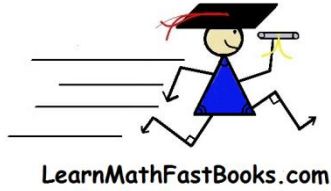
$$v = \frac{4}{3} \cdot 3.14 \cdot 27$$
$$v = 113.04 \text{ in}^3$$

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.

$$\frac{\overset{1}{\cancel{5}}ab + \overset{1}{\cancel{5}}b}{\underset{1}{\cancel{5}}} = \frac{ab + b}{1} = \mathbf{ab + b}$$

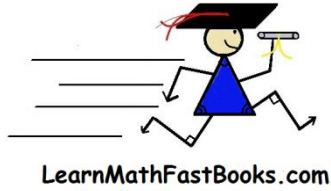
43. Use the Distributive Property of Multiplication to simplify the problem below.

$$\begin{aligned} &(y + 2)(y - 4) \\ &y^2 - 4y + 2y - 8 \\ &\mathbf{y^2 - 2y - 8} \end{aligned}$$

44. Factor the quadratic below.

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

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



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

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

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

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

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

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

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

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

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

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

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.