



NRMCA Concrete Technology Training and Certification Program (Technical Short Course)

Pre-registration Math Quiz

The Technical Short Course covers basic calculations for concrete and aggregate testing and mixture proportioning exercises. Attendees should possess basic math skills to attend this course. This quiz is a sampling of the types of mathematical operations that the attendee should be familiar with. If the attendee cannot answer these questions, a basic math refresher course is strongly recommended.

1. Write each of these decimals as a percentage:

a. $0.25 = \underline{\hspace{2cm}}\%$

b. $0.06 = \underline{\hspace{2cm}}\%$

c. $1.07 = \underline{\hspace{2cm}}\%$

2. Compute these weights using percentages:

a. 6% of 1900 lbs. = lbs.

b. 110% of 1100 lbs. = lbs.

c. 63% of 2700 lbs. = lbs.

3. Express these fractions as decimals and percentages:

a. $70 \div 1400 = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}\%$

b. $46 \div 1800 = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}\%$

c. $105 \div 100 = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}\%$

4. The total moisture content of sand is 6% based on dry weight. How much wet sand should be batched to obtain the required 1350 lbs. of dry sand in the concrete?

 \times = lbs. of wet sand

5. Answer these division problems to the nearest tenth:

a. $2000 \div 27.0 = \underline{\hspace{2cm}}$

b. $1575 \div 10.5 = \underline{\hspace{2cm}}$

c. $74.1 \div 0.68 = \underline{\hspace{2cm}}$

6. Convert these using known conversion factors

1.0 gallon of water weighs 8.33 lbs.

1.0 cu. ft. of water weighs 62.4 lbs.

27.0 cu. ft. = 1.0 cu. yd.

a. 7.49 gallons of water = lbs.

b. 162 cu. ft. of concrete = cu. yd.

c. 3 cu. ft. of water = lbs.

7. What is the average of these strength test results to the nearest one psi?

3210, 3820, 3300, 3480

Average psi

**This Quiz is for attendee self-evaluation.
Do NOT return a completed copy with the registration form.**