Trades Math Practice

The score required to pass your trades pretest is determined by the amount and difficulty of math used in your program. This sample quiz gives you a good idea of the content that you are expected to know for all BCIT trades programs. You should be able to do this practice quiz in 45 minutes and score above 70%. If you do not achieve that level, you should get help. We offer Math for the Trades courses (see Part-time studies- ACES Math). Look to your family, friends, community, or online for other resources to help you improve your math skills.

Good luck.

Whole Numbers:

1. 254 + 9652 + 36 + 5276 =
    a. 15,218   b. 13,872   c. 15,209   d. 12,518

2. 65 x 367 =
    a. 28355   b. 25388   c. 23855   d. 32855

3. 9426 – 458 =
    a. 8698   b. 8968   c. 896   d. 9869

4. 671 ÷ 38 =
    a. 16.325   b. 14.587   c. 15.982   d. 17.658

Fractions:

1. $18\frac{1}{2} + 5\frac{4}{5} =$
    a. $23\frac{5}{7}$ b. $23\frac{5}{10}$ c. $24\frac{3}{10}$ d. $24\frac{3}{4}$

2. $17\frac{1}{8} - 12\frac{1}{4} =$
    a. $4\frac{7}{8}$ b. $3\frac{9}{16}$ c. $\frac{23}{64}$ d. $3\frac{5}{8}$

3. $2\frac{1}{2} \times 3\frac{5}{8} =$
    a. 9   b. $9\frac{1}{16}$ c. $9\frac{3}{8}$ d. $6\frac{5}{16}$

4. $13\frac{11}{15} \div 5 =$
    a. $2\frac{3}{8}$ b. $3\frac{7}{15}$ c. $2\frac{32}{53}$ d. $2\frac{56}{75}$

5. Which set of values is sorted from smallest to largest

    a. $\dfrac{4}{5}, \dfrac{5}{7}, \dfrac{11}{18}, \dfrac{3}{4}$ c. $\dfrac{3}{4}, \dfrac{4}{5}, \dfrac{5}{7}, \dfrac{11}{18}$

    b. $\dfrac{11}{18}, \dfrac{5}{7}, \dfrac{3}{4}, \dfrac{4}{5}$ d. $\dfrac{5}{7}, \dfrac{3}{4}, \dfrac{11}{18}, \dfrac{4}{5}$

Decimals:

1. 18.2 x 0.064 =

    a. 11.648   b. 18.264   c. 1.1648   d. 1.8461

2. 38.54 ÷ 8.2 =

    a. 4.7   b. 0.47   c. 47   d. 0.047

3. Convert 0.357 into a common fraction.

    a. $\dfrac{35.7}{100}$ b. $\dfrac{47}{10000}$ c. $\dfrac{357}{1000}$ d. $\dfrac{357}{100}$

4. Express $4\dfrac{5}{8}$ as a decimal.

    a. 46.25   b. 4.0625   c. 4.58   d. 4.625

Signed Numbers:

1. (-5) x (-8) =

    a. 13   b. -40   c. -13   d. 40

2. 3 + (-17) =

    a. -20   b. -14   c. 4   d. 14

3. (-12) − (34) =

    a. -46   b. 46   c. -36   d. -22

Powers:

1. $0.5^2 =$

   a. 0.10   b. 1   c. 0.25   d. 25

2. $\sqrt{3.24} =$

   a. 18   b. 1.8   c. 0.18   d. 0.018

3. Which value is the smallest?

   a. 14^2 b. 6^3 c. $\sqrt{14236}$ d. $\sqrt{25143}$

4. The scientific notation form of 123.456 is

   a. 12.3456×10^2 b. 1.23456×10^2 c. 123456×10^{-2} d. 123.456×10^1

Order of Operations:

Brackets Exponents Division Multiplication Addition Subtraction (BEDMAS)

1. $(12 + 46) \times (156 \div 32) =$

   a. 2691   b. 282.75   c. 2827.5   d. 28.275

2. $55 - (\dfrac{32 + 17}{7}) \div 6 =$

   a. 8   b. 0.1429   c. 53.833   d. NA

3. $6(385 - 231)$

   a. $(6 \times 385) - (6 \times 231)$ b. $6 \times 385 - 231$ c. 925   d. 6×616

4. $12 + 36 \div (3 \times 4) =$

   a. 180   b. 4   c. 60   d. 15

5. The perimeter of a rectilinear building can be calculated using the formula

   $P = 2(L+W+R)$. Find P when given Length (L) =7595; Width (W) =4750; Recesses

   (R)=1300.

   a.

Ratio and Proportion

1. $\dfrac{N}{16} = \dfrac{3}{4}$ N =

a. 9   b. 10   c. 11   d. 12

2. If a 3 meter tall round water tank filled to the 3 meter level holds 20 kL of water, how many kL of water would the tank hold if filled to the 2 meter level?

    13.5   kL   b. $13\frac{3}{4}$ kL   c. 13.3 kL   d. 15 L

3. A 4.3" diameter pulley turns at 1725 RPM; how fast does a pulley, 2.78" in diameter, turn if they are connected by a drive belt? (to the nearest whole number).
   a. 2668 RPM   b. 1115   c. 3245   d. 267

4. 40' of ¾" steel tubing costs $147.35. How much does 18' cost?

   a. $327.45   b. $66.31   c. $73.68   d. $81.86

5. A concrete fastener is fired at 98 meters per second. Convert this speed to km/h.

   a. 3.528   b. 35.28   c. 352.8   d. 3528

Algebra

1. $R = \dfrac{12(M^3)}{T}$ when M = 8 and T = 16. What does R equal?

   a. 384   b. 3072   c. 864   d. 3456

2. If $\dfrac{11}{16}$ x Y = 14, then Y =

   a. $14\dfrac{11}{16}$ b. 20.36   c. 9.625   d. $\dfrac{11Y}{16}$

3. 6R x S = B + D   R =

   a. B + D x 6S   b. $\dfrac{B + D6}{S}$ c. $\dfrac{B + D}{6S}$ d. 6B + D ÷ S

4. Which equation is NOT correct?

   a. $\dfrac{R + T}{Y} = \dfrac{R}{Y} + \dfrac{T}{Y}$ b. (F + Q)P = F + QP c. GX − GU = G(X − U) d. $\dfrac{L}{S \times M} = L ÷ SM$

Percent:

1. What is 37.5% of 89 feet?

    a. 0.3375 feet   b. 3 3/8 feet   c. 33.375 feet   d. 3337.5 feet

2. 21 is approximately what percent of 1034?

    a. 2.0309   b. 20.3   c. 203.09   d. 0.231

3. 30 is 20% less than what value?

    a. 6   b. 37.5   c. 36 d. 24

4. Which value is the equivalent to 1.19625?

    a. 11.9625%   b. 1.197%   c. 119.625/1000%   d. 119 5/8%

Geometry

1. A 7 m deep tank with a square base holds 141.75 m³. How long is one side of the tank?
    a. 3.5 m   b. 4.5 m   c. 10.125 m   d. 20.25 m

2. What is the area of a circle with a diameter of 12 cm? (answer to the nearest cm²)

    a. 112 cm²   b. 113 cm²   c. 114 cm²   d. 115 cm²

3. Determine the area of the triangle.

    a. 54 cm²   b. 76.5 cm²   c. 108 cm²   d. 135 cm²

15 cm

9 cm
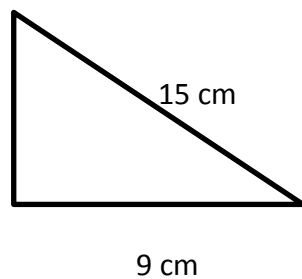
4. What is the measurement at angle X? (Do not use a protractor)

    a. 60°   b. 80°   c. 100°   d. 120°
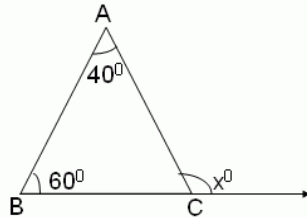
5. How many liters of paint are needed to cover the outside of a closed tank having a diameter of 3 meters and a length of 6 meters? Do not include the ends. 1 liter covers 9 m²

    a. 0.63 liters   b. 6.3 liters   c. 63 liters   d. 630 liters

6. A worker must position a cable from a point on the ground to a point 10 feet up a wall, perpendicular (90^0) to the ground. The point on the ground is 20 feet away from the base of the wall. What is the correct formula to use to find the angle of the cable to the ground?

    a. Tan/O   b. $Cos^{-1}A$ c. O/Sin   d. Tan^{-1}

Answers:

Whole Numbers:

1. A. 15,218
2. C. 23855
3. B. 8968
4. D. 17,658

Fractions:

1. C. $24\frac{3}{10}$

2. A. $4\frac{7}{8}$

3. B. $9\frac{1}{16}$

4. D. $2\frac{46}{75}$

5. B. $\frac{11}{18}\ \frac{5}{7}\ \frac{3}{4}\ \frac{4}{5}$

Decimals:

1. C. 1.1648
2. A. 4.7
3. C. $\frac{357}{1000}$
4. D. 4.625

Negatives:

1. D. 40
2. B. -14
3. A. -46

Powers:

1. C. 0.25
2. B. 1.8
3. C. $\sqrt{14236}$
4. B. 1.23456×10^{2}

Order of operations:

1. B. 282.75
2. C. 53.833
3. A. (6 x 385) – (6 x 231)
4. D. 15
5. 27290

Ratio and Proportion:

1. D. 12
2. C. 13.3kL
3. A. 2668
4. B. $66.31
5. C. 352.8

Algebra:

1. A. 384
2. B. 20.36
3. C. $\frac{B+D}{6S}$
4. B. (F +Q)P = F + QP

Percent:

1. C. 33.375 feet
2. A. 2.0309
3. B. 37.5
4. D. 119 5/8%

Geometry:

1. B. 4.5
2. B. 113
3. A. 54 cm²
4. C. 100°
5. B. 6.3 Liters
6. D. Tan^{-1}