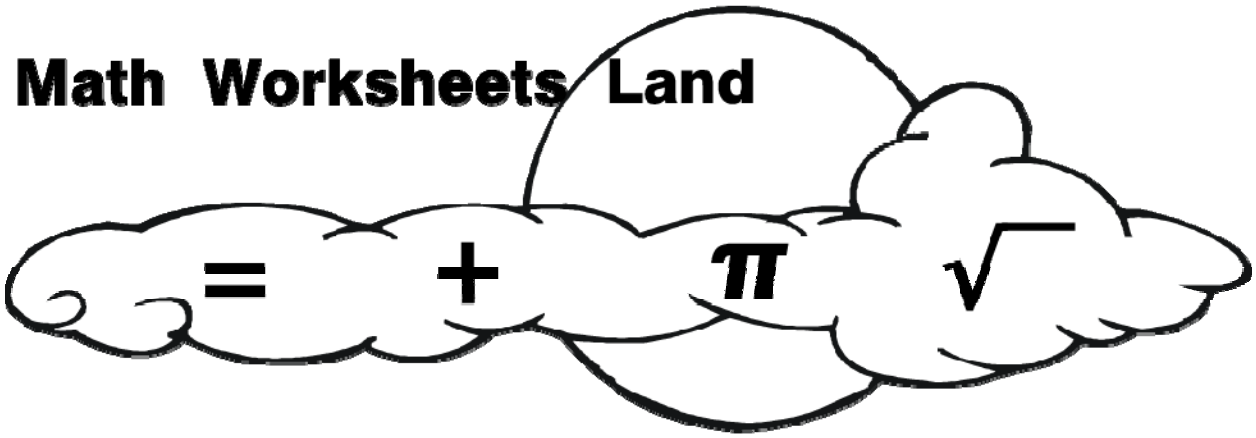
High School Numbers and Quantities Sampler Test



Our High School Numbers and Quantities sampler covers the twenty most common questions that we see targeted for this level. For complete tests and break downs of each section, please check out web site listed below.

High School Numbers and Quantities Common Core Math Tests:

http://www.mathworksheetsland.com/tests/hsnumberquan.html

For Full Worksheets, Quizzes, and Homework Samples:

http://www.mathworksheetsland.com/hsnumbersquan/

Name _____ Date _____

Q1. Solve

$$\sqrt[3]{64} + (3^4)^{\frac{1}{2}}$$

Q2. Solve

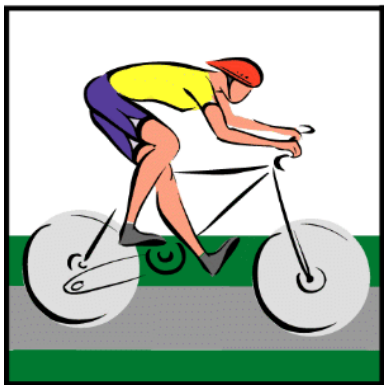
$$\frac{\sqrt{25}}{\sqrt{5}}$$

Q3. Is the following expression rational or irrational?

$$\sqrt[3]{3} - \sqrt{27}$$

Q4. A bicycle travels at a speed of 20 km/hour.

How much distance does the bike travel in 3.5 hours?



Name _____ Date _____

Q5. David wants to replace floor tiles. The area of the floor is 80 sq. feet. Which package would cost David the least amount of money?

a) **Spanish tiles $12/sq. foot for first 50sq.feet and rest 30sq.feet at discount $9/sq. Foot**

b) **Classic tiles $11/sq. foot.**

Q6. Solve

$$\sqrt{-25} + \sqrt{-144}$$

Q7. Solve

$$(5 - 4i) \textbf{ x } (3 - 7i)$$

Q8. Solve

$$\frac{2 - \sqrt{-3}}{2 + \sqrt{-3}}$$

Name _____ Date _____

Q9. What is the distance between $(-5-7i)$ and $(6-7i)$ on a complex plane?

Q10. Find the real roots of

$$x^2-2x-18=6$$

Q11. Solve & write the equation in complex plane

$$9x^2+49=0$$

Q12. Convert to rectangular form

$$(8,90°)$$

Name _____ Date _____

Q13. John had to buy a gift and take it to his uncle's house. He left home for the gift shop and moved 6 km in a southeast direction at 45°. After he purchased the gift, he travelled 2 km to his uncle's house in a northeast direction at 30°. Find distance between John's house and his uncle's house.

Q14. There are two vectors, vector A of magnitude 5 and B of magnitude 7. If the angle between them is 30°, find resultant vector magnitude and angle made by A and B.

Q15. Find the value of x

$$5[6 \quad 4] = [x \quad 20]$$

Q16. Find the value of x

$$\begin{bmatrix} 5 & 8 \\ 2 & 1 \end{bmatrix} + \begin{bmatrix} 7 & 9 \\ 4 & 4 \end{bmatrix} = \begin{bmatrix} 12 & x \\ 6 & 5 \end{bmatrix}$$

Name _____ Date _____

Q17. Is the following multiplication allowed?

$$\begin{bmatrix} 5 & 5 \\ 9 & 1 \end{bmatrix} \text{ x } \begin{bmatrix} 6 & 7 \\ 6 & 5 \\ 1 & 3 \end{bmatrix}$$

Q18. Find inverse of the following matrix.

$$\begin{bmatrix} 5 & 1 & 7 \\ 6 & 0 & 8 \end{bmatrix}$$

Q19. Find the vector product of the two matrices.

$$\begin{bmatrix} 2 & 0 & 4 \\ 9 & 0 & 7 \\ 2 & 8 & 1 \end{bmatrix} \quad \begin{bmatrix} 8 \\ 7 \\ 3 \end{bmatrix}$$

Q20. Find the determinant of the matrix.

$$\begin{bmatrix} 7 & 5 \\ 3 & 9 \end{bmatrix}$$

Name _____ Date _____

ANSWER KEYS

Q1. 13

Q2. $\sqrt{5}$

Q3. Rational

Q4. 70 km

Q5. Option "a"

Q6. $17i$

Q7. $-13-47i$

Q8. $\frac{1+4\sqrt{3}i}{7}$

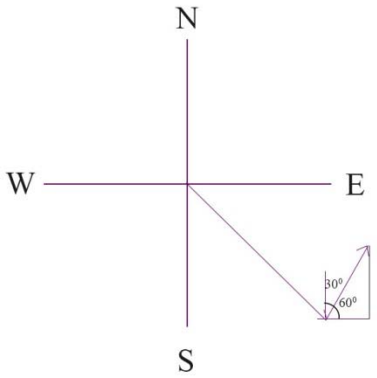
Q9. 11

Q10. x = 6 and x = -4

Q11. x = $\frac{7i}{3}$ **and x =** $\frac{-7i}{3}$

Q12. $0+8i$ **or** $(0,\ 8)$

Q13. 7.07 Km



Name _____ Date _____

Q14. R magnitude = 10.44
Angle A = 35.5°, Angle B= 84.5°

Q15. 30

Q16. 17

Q17. No

Q18. Inverse does not exist.

Q19. $\begin{matrix} 28 \\ 128 \\ 75 \end{matrix}$

Q20. 48