Name: _____ **Class:** _____ **Date:** _____ **ID: A**

Algebra II Practice Quiz 8.6 - 8.8

Multiple Choice
Identify the choice that best completes the statement or answers the question.

____ **1.** (5 points) Find all the real sixth roots of –64.
A) 2
B) –2 and 2
C) –2
D) no real roots

____ **2.** (5 points) Simplify the expression $\sqrt[5]{32z^{10}}$. Assume that all variables are positive.
A) $\sqrt[5]{32}\,z^4$
B) $2z^4$
C) $2z^2$
D) $\sqrt[5]{32}\,z^2$

____ **3.** (5 points) Write the expression $125^{\frac{2}{3}}$ in radical form, and simplify. Round to the nearest whole number if necessary.
A) $\sqrt[\frac{2}{3}]{125}$; 25
B) $\frac{125^2}{125^3}$; $\frac{1}{125}$
C) $(\sqrt{125})^3$; 1398
D) $(\sqrt[3]{125})^2$; 25

____ **4.** (5 points) Write the expression $\sqrt[4]{5^7}$ by using rational exponents.
A) 5^{-3}
B) $5^{\frac{4}{7}}$
C) 5^3
D) $5^{\frac{7}{4}}$

____ **5.** (5 points) Simplify the expression $(125)^{\frac{1}{3}} \cdot (125)^{\frac{2}{3}}$.
A) 5
B) 15625
C) 25
D) 125

____ **6.** (5 points) Frets are small metal bars positioned across the neck of a guitar so that the guitar can produce notes of a specific scale. To find the distance a fret should be placed from the bridge, multiply the string length by $2^{\frac{-n}{12}}$ where n is the number of notes higher than the string's root note.

Determine where to place a fret to produce an A note on a C string (5 notes higher) that is 70 cm long. Round your answer to the nearest hundredth.
A) 52.44 cm
B) 58.33 cm
C) 74.92 cm
D) 93.44 cm

____ **7.** (5 points) Solve the equation $-4 + \sqrt{x-5} = 1$.
A) $x = 30$
B) $x = 25$
C) $x = 6$
D) $x = 20$

____ **8.** (5 points) Solve $\sqrt{40x} = 5\sqrt{x+3}$.

A) $x = 5$
C) $x = 75$
B) $x = 7$
D) $x = 10$

____ **9.** (5 points) Solve $\sqrt{x+3} = x+1$.

A) $x = 1$
C) $x = -2$
B) No solution.
$\sqrt{x+3}$ is not defined for $x < -3$.
D) $x = -2$ or $x = 1$

____ **10.** (5 points) Solve $(3x+10)^{\frac{1}{2}} = x$.

A) $x = -5$ or $x = 2$
C) $x = 5$
B) $x = -2$
D) $x = 5$ or $x = -2$

____ **11.** (5 points) The speed s in miles per hour that a car is traveling when it goes into a skid can be estimated by the formula $s = \sqrt{30fd}$, where f is the coefficient of friction and d is the length of the skid marks in feet. On the highway near Lake Tahoe, a police officer finds a car on the shoulder, abandoned by a driver after a skid and crash. He is sure that the driver was driving faster than the speed limit of 20 mi/h because the skid marks measure 9 feet and the coefficient of friction under those conditions would be 0.7. At about what speed was the driver driving at the time of the skid? Round your answer to the nearest mi/h.

A) 23 mi/h
C) 14 mi/h
B) 189 mi/h
D) 19 mi/h

Numeric Response

12. (5 points) How many vertical asymptotes does the graph of $f(x) = \dfrac{x^2+9}{x^2-4x+4}$ have?

13. (5 points) What value of x makes $(2x+4)^{\frac{1}{3}} = 2$ a true statement?

Algebra II Practice Quiz 8.6 - 8.8
Answer Section

MULTIPLE CHOICE

1.	ANS: D	PTS: 5	REF:	Page 610
2.	ANS: C	PTS: 5	REF:	Page 611
3.	ANS: D	PTS: 5	REF:	Page 612
4.	ANS: D	PTS: 5	REF:	Page 612
5.	ANS: D	PTS: 5	REF:	Page 613
6.	ANS: A	PTS: 5	REF:	Page 613
7.	ANS: A	PTS: 5	REF:	Page 628
8.	ANS: A	PTS: 5	REF:	Page 629
9.	ANS: A	PTS: 5	REF:	Page 629
10.	ANS: C	PTS: 5	REF:	Page 630
11.	ANS: C	PTS: 5	REF:	Page 631

NUMERIC RESPONSE

12. ANS: 1

PTS: 5

13. ANS: 2

PTS: 5