This practice test contains 13 questions. The actual test contains 25 questions.
The use of a calculator is not permitted.
Topics for this test include factoring, rational expressions, inequalities, systems of equations, word problems, exponents, radicals, ratios and proportions, graphs of linear functions.

1. $\frac{2 x}{x^{2}-25}-\frac{1}{x+5}=$
A. $\frac{2 x-1}{x^{2}-25}$
B. $\frac{1}{x+5}$
C. $\frac{1}{x-5}$
D. $x+5$
E. $\frac{2 x-1}{x^{2}-x-20}$
2. $\frac{a}{a+\frac{3}{b}}=$
A. $\frac{b}{b+3}$
B. $\frac{b+3}{b}$
C. $\frac{b}{3}$
D. $\frac{a b}{a b+3}$
E. $\frac{a b}{a+3}$
3. $\sqrt{ } \frac{10}{15 x}$
A. $\frac{\sqrt{6 x}}{3 x}$
B. $\frac{2^{\sqrt{ }} \overline{3 x}}{3 x}$
C. $\frac{2^{\sqrt{ }} \overline{15 x}}{3 x}$
D. $\frac{\sqrt{ }}{3 x} 2$
E. $\frac{\sqrt{ }}{\overline{15 x}} 10$
4. $\sqrt{\sqrt{ }} \overline{\mathrm{x}}+5^{\sqrt{ }} \overline{\mathrm{x}}=$
A. $\overline{14 x}$
B. $5^{\sqrt{ }} \overline{10 x}$
C. $\sqrt{ } \overline{34 x}$
D. $8^{\sqrt{ }} \bar{x}$
E. $6^{\sqrt{ }} \overline{10 x}$
5. Of the following graphs, which best represents the solution of the inequality $2 x+3<5$ ?
A. $\longleftarrow \quad 1$
B.

C.

D.

E.

6. If $\frac{1}{x}+5=\frac{x-4}{x}$, then $x=$
A. 10
B. $-\frac{1}{8}$
C. $-\frac{1}{2}$
D. $-\frac{3}{4}$
E. $-\frac{5}{4}$
7. The $x$-coordinate of the solution to the system of equations $\begin{aligned} & 4 x+3 y=9 \\ & 4 x-3 y=7\end{aligned}$ is:
A. $x=16$
B. $x=4$
C. $x=2$
D. $x=\frac{1}{3}$
E. $x=\frac{1}{4}$
8. $\frac{x^{2}-16}{x^{2}-8 x+16}=$
A. $\frac{x+4}{x-4}$
B. 0
C. $\frac{1}{8 x}$
D. 1
E. $\frac{-16}{-8 x+16}$
9. A student has 42 coins worth a total of $\$ 5.90$. Each coin is either a nicke (five cents) or a quarter (twenty-five cents). If $x$ is the number of nickes, then $x$ can be determined from the equation
A. $0: 05 x+0: 25(42-x)=5: 90$
B. $0: 05+0: 25(42-x)=5: 90$
C. $0: 05 x+10: 50=5: 90$
D. $42 x=5: 90$
E. $\frac{x}{0: 05}+\frac{42-x}{0: 25}=5: 90$
10. One of the factors of $14 x^{2}+x-3$ is
A. $7 x-3$
B. $14 x-1$
C. $2 x-1$
D. $7 x+3$
E. $7 x+1$
11. $\sqrt{ } \overline{80 a^{8} b^{12}}$
A. $4 a^{4} b^{6}$
B. $40 a^{4} b^{6}$
C. $4 a^{6} b^{10^{\sqrt{2}}} \overline{5}$
D. $4 a^{4} b^{6^{\sqrt{V}}} \overline{5}$
E. $40 a^{8} b^{12}$
12. In a certain company, 240 of the employees are men. What is the total number of employees if 5 out of every 8 employees are men?
A. 9600
B. 1920
C. 384
D. 150
E. 16
13. Which of the following points lies on the line $3 x+4 y+5=0$ ?
A. $-4 ; \frac{11}{3}$
B. $-4 ; \frac{7}{4}$
C. $0 ; \frac{5}{4}$
D. $(4 ;-7)$
E. $4 ; \frac{17}{4}$

Answers:

1. C
2. D
3. C
4. D
5. A
6. E
7. C
8. A
9. A
10. A
11. D
12. C
13. B
