FINAL EXAMINA . .N

TEST FORM G

1. Evaluate $\frac{7x}{9y}$ when $x = \frac{5}{14}$ and $y = \frac{5}{36}$.

   a) $\frac{18}{7}$ b) 2 c) $\frac{1}{2}$ d) $\frac{7}{9}$

2. Find the reciprocal of $-\frac{15}{8}$.

   a) $\frac{15}{8}$ b) $-\frac{15}{8}$ c) $-\frac{8}{15}$ d) $\frac{8}{15}$

3. Find the prime factorization of 900.

   a) $2 \cdot 2 \cdot 3 \cdot 3 \cdot 5 \cdot 5$ b) $2 \cdot 2 \cdot 2 \cdot 3 \cdot 5 \cdot 5$

   c) $2 \cdot 2 \cdot 3 \cdot 5 \cdot 5 \cdot 5$ d) $2 \cdot 2 \cdot 3 \cdot 3 \cdot 3 \cdot 5$

4. Solve: $7 - 12x \geq -17$.

   a) $\{x \mid x \geq -2\}$ b) $\{x \mid x \geq 2\}$

   c) $\{x \mid x \leq -2\}$ d) $\{x \mid x \leq 2\}$

5. Solve: $\frac{2}{3}x - \frac{6}{7} = \frac{3}{7}$.

   a) $\frac{9}{14}$ b) $\frac{14}{9}$ c) $\frac{27}{14}$ d) $\frac{7}{9}$

6. Find decimal notation: 0.82%.

   a) 0.00082 b) 0.82 c) 82 d) 0.0082

7. What number is 160% of 37?

   a) 23.125 b) 59.2 c) 68.5 d) 0.0432

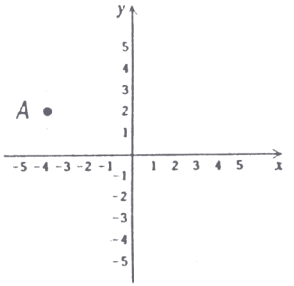
8. The perimeter of a rectangle is 104 m. The length is 12 m more than the width. Find the length.

   a) 32 b) 20 c) 22 d) 30

9. Find the coordinates of point A.

   a) $(4, -2)$ b) $(-2, 4)$

   c) $(2, -4)$ d) $(-4, 2)$



10. In which quadrant is the point $(-1, -1)$ located?

    a) III b) II c) I d) IV

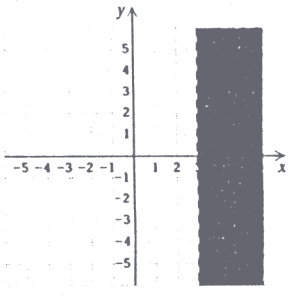
11. Express $25 - \sqrt{-400}$ in terms of i.

    a) $5i$ b) $25 + 20i$

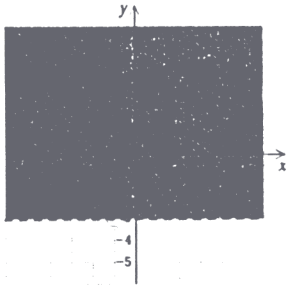
    c) $25 - 20i$ d) $25 - 5i\sqrt{10}$

12. Graph: $y > -3$.

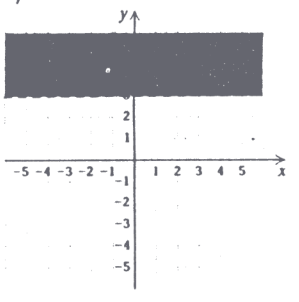
a)



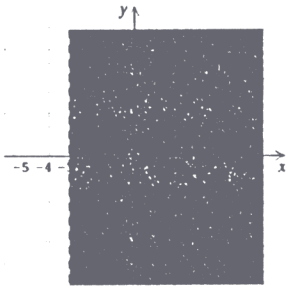
b)



c)



d)



13. Simplify: $(-3x^3y^5)^4$.

    a) $81x^{12}y^{20}$ b) $-81x^7y^9$ c) $81x^7y^9$ d) $-12x^{12}y^{20}$

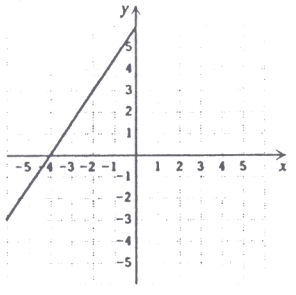
14. Subtract: $(x^3 - 2.5x^2 + 5) - (2.7x^2 - 2x + 7)$.

    a) $x^3 + 5.2x^2 + 2x - 2$ b) $x^3 - 0.2x^2 - 2x - 2$

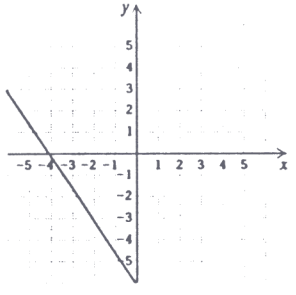
    c) $x^3 - 5.2x^2 + 2x - 12$ d) $x^3 - 5.2x^2 + 2x - 2$

15. Graph: $6x + 4y = -24$

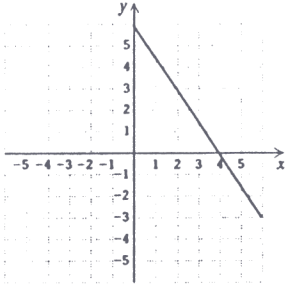
a)



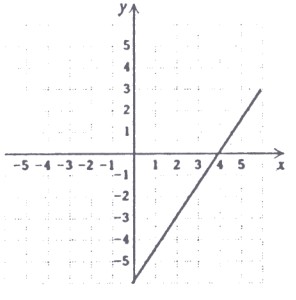
b)



c)



d)



16. Divide: $(36x^5 - 60x^3 + 24x^2) \div 6x^2$.

a) $-54x^{3/2} + 18$ b) $-6x^3 + 10x - 4$

c) $6x^3 - 10x + 4$ d) $6x^{5/2} - 10x^{3/2} + 4$

17. Remove parentheses and simplify: $5(2a - 8b) + 4b - 7$.

a) $2a - 4b - 7$ b) $10a + 44b - 7$

c) $10a - 36b - 7$ d) $5a - 44b - 7$

18. Multiply: $(5a - 7b)(3a + 2b)$.

a) $15a^2 - 11ab - 14b^2$ b) $5a^2 - 11ab + 14b^2$

c) $15a^2 - 21ab - 14b^2$ d) $15a^2 + 11ab - 14b^2$

19. Simplify: $\left(\frac{x}{y^2z}\right)^{-4}$.

a) $\frac{y^8x^4}{z^4}$ b) $\frac{y^8z^4}{x^4}$ c) $\frac{x^4}{y^8z^4}$ d) $\frac{y^4z^4}{x^4}$

20. Find one of the factors of $3m^2 + 6m - 45$.

a) $m + 3$ b) 5 c) $m - 5$ d) $m - 3$

21. Find one of the factors of $49x^2 + 28x + 4$.

a) $7x - 2$ b) $2x + 7$ c) $2x - 7$ d) $7x + 2$

22. Solve: $2x^2 - x = 15$.

a) $-5, \frac{3}{2}$ b) $-\frac{5}{2}, 3$ c) $-3, \frac{5}{2}$ d) $-\frac{3}{2}, 5$

23. The square of a number is 18 more than three times the number. Find the number.

a) $-3, -6$ b) $3, -6$ c) $-3, 6$ d) $3, 6$

24. Divide and simplify: $\frac{36x^2 - 16}{4x^2 + 20x} \div \frac{12x - 8}{x + 5}$.

a) $\frac{3x + 2}{4x}$ b) $\frac{6x - 4}{2x}$ c) $\frac{4x + 6}{2x}$ d) $\frac{2x - 3}{6x}$

Answers for Final Tests: FORM G

1. b
2. c
3. a
4. d
5. c
6. d
7. b
8. a
9. d
10. a
11. c
12. b
13. a
14. d
15. b
16. c
17. c
18. a
19. b
20. d
21. d
22. b
23. c
24. a
25. a
26. c
27. d
28. b
29. b
30. d
31. a
32. c
33. c
34. d
35. b

25. Subtract: $\frac{x-9}{x-2} - \frac{x+5}{2-x}$.

a) 2 b) 3 c) 4 d) 5

26. Simplify: $\frac{2}{x+3} - \frac{3}{x^2-9} + \frac{2}{x^2+6x+9}$.

a) $\frac{x^2-x-33}{(x-9)(x+9)^2}$ b) $\frac{x^2+x+33}{(x-3)(x+3)^2}$

c) $\frac{x^2-x-33}{(x-3)(x+3)^2}$ d) $\frac{x^2-x-33}{(x-3)^3(x+3)}$

27. Neville runs 5 km/h faster than Bascom. In the time that Bascom runs 5.5 km, Neville runs 8 km. What is Bascom's running speed?

a) 21 km/h b) 6 km/h c) 16 km/h d) 11 km/h

28. Find the slope of the line containing the points $(8, -2)$, and $(-3, 5)$.

a) $-\frac{11}{7}$ b) $-\frac{7}{11}$ c) $\frac{7}{11}$ d) $\frac{11}{7}$

29. Find the slope-intercept equation for the line with slope $\frac{2}{5}$ and containing the point $(-5, 3)$.

a) $y = \frac{2}{5}x - 5$ b) $y = \frac{2}{5}x + 5$

c) $y = \frac{2}{5}x + 3$ d) $y = \frac{2}{5}x - 8$

30. If y varies inversely as x and $y = 26$ when $x = 3$, find the equation of variation.

a) $y = \frac{x}{78}$ b) $y = \frac{26}{3x}$ c) $y = \frac{26}{3}x$ d) $y = \frac{78}{x}$

31. Find the y-coordinate when you solve $x + y = 20$, $3x - y = 28$.

a) 8 b) 6 c) 4 d) 2

32. The sum of two numbers is 38. One number is ten less than the other. Find the larger number.

a) 14 b) 18 c) 24 d) 28

33. Film is sold in rolls of 24 exposures for \$4.75, and 36 exposures for \$6.00. If Keesha spent \$52.50 on ten rolls of film, how many 36-exposure rolls of film did she buy?

a) 6 b) 3 c) 4 d) 5

34. Approximate $\sqrt{82}$ using a calculator or Table 2.

a) 10.003 b) 8.985 c) 9.550 d) 9.055

35. Simplify: $\sqrt{88\,a^8}$.

a) $2a^2\sqrt{8a}$ b) $2a^4\sqrt{22}$

c) $a^4\sqrt{88}$ d) $8a^4\sqrt{11}$