

Please record all answers on Answer Sheet provided.

Honors Geometry
Summer Packet

Name:

I. Reducing Fractions:

Multiply. Write your answers in simplest form.

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|---------------------------------------|---------------------------------------|--|---------------------------------------|--|
| 1. $\frac{2}{5} \cdot \frac{3}{4}$ | 2. $\frac{3}{7} \cdot \frac{4}{3}$ | 3. $1\frac{1}{2} \cdot 5\frac{3}{4}$ | 4. $3\frac{4}{5} \cdot 10$ | 5. $5\frac{1}{4} \cdot \frac{2}{3}$ |
| 6. $4\frac{1}{2} \cdot 7\frac{1}{2}$ | 7. $3\frac{2}{3} \cdot 6\frac{9}{10}$ | 8. $6\frac{1}{2} \cdot 7\frac{2}{3}$ | 9. $2\frac{2}{5} \cdot 1\frac{1}{6}$ | 10. $4\frac{1}{9} \cdot 3\frac{3}{8}$ |
| 11. $3\frac{1}{5} \cdot 1\frac{7}{8}$ | 12. $7\frac{5}{6} \cdot 4\frac{1}{2}$ | 13. $1\frac{2}{3} \cdot 5\frac{9}{10}$ | 14. $3\frac{3}{4} \cdot 5\frac{1}{3}$ | 15. $1\frac{2}{3} \cdot 3\frac{9}{16}$ |

Divide. Write your answers in simplest form.

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| 16. $\frac{3}{5} \div \frac{1}{2}$ | 17. $\frac{4}{5} \div \frac{9}{10}$ | 18. $2\frac{1}{2} \div 3\frac{1}{2}$ | 19. $1\frac{4}{5} \div 2\frac{1}{2}$ | 20. $3\frac{1}{6} \div 1\frac{3}{4}$ |
| 21. $5 \div \frac{3}{8}$ | 22. $\frac{4}{9} \div \frac{3}{5}$ | 23. $\frac{5}{8} \div \frac{3}{4}$ | 24. $2\frac{1}{5} \div 2\frac{1}{2}$ | 25. $6\frac{1}{2} \div \frac{1}{4}$ |

II. Reducing Radicals:

Simplify each radical expression.

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|------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. $\sqrt{200}$ | 2. $\sqrt{98}$ | 3. $\sqrt{75}$ | 4. $-\sqrt{80}$ |
| 5. $-3\sqrt{120}$ | 6. $5\sqrt{320}$ | 7. $\sqrt{28n^2}$ | 8. $\sqrt{108b^4}$ |
| 9. $3\sqrt{12x^2}$ | 10. $\sqrt{4n^3}$ | 11. $\sqrt{20a^5}$ | 12. $-\sqrt{48b^4}$ |
| 13. $\sqrt{10} \cdot \sqrt{40}$ | 14. $3\sqrt{6} \cdot \sqrt{6}$ | 15. $\sqrt{22} \cdot \sqrt{11}$ | 16. $2\sqrt{18} \cdot 7\sqrt{6}$ |
| 17. $\sqrt{7} \cdot \sqrt{21}$ | 18. $-3\sqrt{20} \cdot \sqrt{15}$ | 19. $\sqrt{3n} \cdot \sqrt{24n}$ | 20. $2\sqrt{7t} \cdot \sqrt{14t}$ |
| 21. $\sqrt{3x} \cdot \sqrt{51x^3}$ | 22. $5\sqrt{8t} \cdot \sqrt{32t^5}$ | 23. $\sqrt{2a^2} \cdot \sqrt{9a^4}$ | 24. $-2\sqrt{6a^3} \cdot \sqrt{3a}$ |

For Exercises 25–27, use the formula $d = \sqrt{1.5h}$ to approximate distance d in miles to a horizon when h is the height in feet of the viewer's eyes above the ground. Round your answer to the nearest mile.

25. Find the distance you can see to the horizon from a height of 6 feet.
26. Find the distance you can see to the horizon from a height of 100 feet.
27. Find the distance you can see to the horizon from a height of 200 feet.

Simplify each radical expression.

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| 28. $\sqrt{\frac{21}{49}}$ | 29. $3\sqrt{\frac{3}{4}}$ | 30. $\sqrt{\frac{625}{100}}$ | 31. $\sqrt{\frac{120}{121}}$ |
| 32. $\sqrt{\frac{5}{9a^2}}$ | 33. $\sqrt{\frac{7}{16c^2}}$ | 34. $\sqrt{\frac{75a}{49}}$ | 35. $\sqrt{\frac{8n^3}{81}}$ |
| 36. $\sqrt{\frac{15}{5}}$ | 37. $\sqrt{\frac{54}{24}}$ | 38. $\sqrt{\frac{60}{5}}$ | 39. $-\sqrt{\frac{160}{8}}$ |
| 40. $\sqrt{\frac{140x^3}{5x}}$ | 41. $\sqrt{\frac{3s^3}{27s}}$ | 42. $\sqrt{\frac{30a^5}{40a}}$ | 43. $\sqrt{\frac{63y}{7y^3}}$ |

Simplify each radical expression by rationalizing the denominator.

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|--------------------------|----------------------------|-----------------------------------|-----------------------------------|
| 44. $\frac{3}{\sqrt{2}}$ | 45. $\frac{5}{\sqrt{5}}$ | 46. $\frac{\sqrt{3}}{\sqrt{7x}}$ | 47. $\frac{2\sqrt{2}}{\sqrt{5n}}$ |
| 48. $\frac{9}{\sqrt{8}}$ | 49. $\frac{12}{\sqrt{12}}$ | 50. $\frac{3\sqrt{2}}{\sqrt{9b}}$ | |

III. Solving Quadratic Equations:

Solve by factoring.

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|--------------------------|-------------------------|------------------------|
| 9. $b^2 + 3b - 4 = 0$ | 10. $m^2 - 5m - 14 = 0$ | 11. $w^2 - 8w = 0$ |
| 12. $x^2 - 16x + 55 = 0$ | 13. $k^2 - 3k - 10 = 0$ | 14. $n^2 + n - 12 = 0$ |
| 15. $x^2 + 8x = -15$ | 16. $t^2 - 3t = 28$ | 17. $n^2 = 6n$ |
| 18. $2c^2 - 7c = -5$ | 19. $3q^2 + 16q = -5$ | 20. $4y^2 = 25$ |

IV. Open-Ended Response:

1. Describe (in your own words) what type of Algebra I student you were (include the topics you thought were easiest and the most difficult). Rate your opinion of Algebra on a scale from 1 to 10 (where 1=lowest, and 10=highest).

2. Rate your opinion of Geometry on a scale from 1 to 10 (where 1=lowest, and 10=highest). List the things you already know about geometry, and provide an example of each topic you list:

Answer Sheet

I. Reducing Fractions

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II. Reducing Radicals

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III. Solving Quadratic Eqs.

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IV. Open-Ended Response

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