

**Pre-Algebra Mastery Test #5 Review**

Solve the equation. Then check the solution.

**1**  $-2(6n - 5) = -26$

Find the value of  $x$  for the figure.

**2** Perimeter = 26



Solve the inequality. Then graph the solution.

**3**  $-2x \leq -8$



**Factor the monomial.**

**4**  $22j^2k^3$

Name: \_\_\_\_\_

ID: A

Decide whether the numbers are relatively prime. If not, find the greatest common factor.

**5** 16, 20

- 6** A teacher has 12 notebooks, 18 erasers, and 36 pencils. He wants to divide them so that each portion has an equal number of notebooks, an equal number of erasers, and an equal number of pencils. What is the maximum number of portions he can make?

Write the fraction in simplest form.

**7**  $\frac{9v^2}{24v}$

Write the fractions in simplest form. Tell whether they are equivalent.

**8**  $\frac{25}{45}, \frac{200}{360}$

Find the least common multiple of the monomials.

**9**  $12tu, 15t^4$

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Find the missing exponent.

**10**  $\frac{15^?}{15^2} = 15^3$

Simplify the expression.

**11**  $2a^2b^5 \cdot 6a^9b^3$

Write the expression using only positive exponents.

**12**  $-20x^5y^{-2}$

Write the expression without using a fraction bar.

**13**  $\frac{6}{x^{-9}}$

Find the product. Write your answer using only positive exponents.

**14**  $x^0 \cdot x^8$

Name: \_\_\_\_\_

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Find the quotient. Write your answer using only positive exponents.

15  $\frac{x^{-5}}{x^9}$

Write the number in scientific notation.

16 0.00449

Find the product. Write your answer in scientific notation.

17  $(1.5 \times 10^{-6}) \times (2.3 \times 10^{-3})$

18  $(1.5 \times 10^2)(2.3 \times 10^3)$

19 An observatory has been tracking a comet for a distance of  $3.889 \times 10^7$  kilometers. Which of the following is equal to that distance?

Order the numbers from least to greatest.

20  $4.38 \times 10^8$ ;  $4.38 \times 10^6$ ; 43,800,000;  $8.38 \times 10^7$

Name: \_\_\_\_\_

ID: A

Write the decimal as a fraction or mixed number.

**21**  $8.05\bar{1}$

Simplify the expression.

**22**  $\frac{15}{22m} - \left(-\frac{3}{22m}\right)$

Find the sum or difference.

**23**  $\frac{8}{9} - \frac{1}{12}$

Simplify the expression.

**24**  $\frac{14k}{11} - \frac{4k}{9}$

Find the product.

**25**  $\frac{1}{2} \cdot \frac{1}{3}$

$$26 \quad -9 \left( \frac{1}{6} \right)$$

$$27 \quad 8\frac{6}{7} \cdot 5\frac{1}{3}$$

Find the quotient.

$$28 \quad \frac{5}{4} \div \frac{3}{4}$$

- 29 Jennifer owns  $\frac{7}{8}$  of the mineral rights on a piece of property. She wants to divide these rights equally among 3 children. What fractional part of the mineral rights will each child get?

Solve the equation. Check your solution.

$$30 \quad 50 = \frac{5}{2}x$$

$$31 \quad 6 = \frac{7}{5}y - 8$$

Pre-Algebra Mastery Test #5 Review  
Answer Section

- 1 3  
2 8  
3  $x \geq 4$



- 4  $2 \cdot 11 \cdot j \cdot j \cdot k \cdot k \cdot k$   
5 No; 4  
6 6  
7  $\frac{3v}{8}$   
8  $\frac{5}{9}, \frac{5}{9}, \text{yes}$   
9  $60t^4u$   
10 5  
11  $12a^{11}b^8$   
12  $\frac{-20x^5}{y^2}$   
13  $6x^9$   
14  $\frac{1}{x^8}$   
15  $\frac{1}{x^{14}}$   
16  $4.49 \times 10^{-3}$   
17  $3.45 \times 10^{-9}$   
18  $3.45 \times 10^5$   
19 38,890,000 km  
20  $4.38 \times 10^6$ ; 43,800,000;  $8.38 \times 10^7$ ;  $4.38 \times 10^8$   
21  $8\frac{23}{450}$   
22  $\frac{9}{11m}$   
23  $\frac{29}{36}$   
24  $\frac{82k}{99}$   
25  $\frac{1}{6}$

**26**  $-1\frac{1}{2}$

**27**  $47\frac{5}{21}$

**28**  $1\frac{2}{3}$

**29**  $\frac{7}{24}$  of the mineral rights

**30** 20

**31** 10