

Cumulative Test

11A

1. (48) Ron is renting a car for 5 days. He can spend \$200 at most. There is a deposit fee of \$50. What can he spend at most on the per day rental fee including the \$50 deposit?

Simplify problems 5-8.

5. (49) $(2x^3)^3$

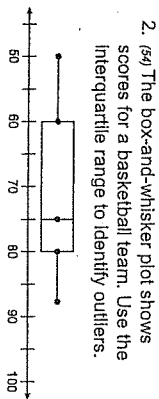
6. (49) $2x^3 + 3y^2 + 4x^3y^2 - 3x^3 - 2x^3y^2$

7. (49) $\frac{x^3}{y} \left(\frac{y^2}{x^2} + \frac{2y^3}{x} \right)$

8. (22) $\frac{1}{n-5}$

9. (52) Write the polynomial $3y^2 + y^3$ in standard form. Then write the leading coefficient.

10. (44) Determine the slope of the line that contains the points (3, 7) and (-2, 3).



3. (51) Simplify $\frac{2x^2}{8x}$ if possible. Identify any excluded values.

4. (48) The following data show scores for a math test. Identify any outliers. What is the effect of any outliers on measures of central tendency?

69, 75, 68, 98, 65, 72, 83, 70, 71

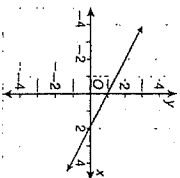
Cumulative Test

continued

11A

11. (56) Tell whether the ordered pair (2, 4) is a solution of the system below.
- $$\begin{aligned} x - 2y &= -6 \\ 3x + 2y &= 12 \end{aligned}$$

12. (49) Write the equation of the graphed line in slope-intercept form.



13. (49) A shipping carton in the shape of a cube has a volume of 64 cubic feet. What is the side length of the carton?

Solve problems 14-16.

14. (27) $\frac{3}{5} = \frac{x+2}{15}$

15. (29) $15 + 10x = -5(-2x - 3)$

16. (29) $7 = -5m - 3$

17. (47) A frame store purchases frames for \$12.00 each and then marks up the price of each by 45%. What is the markup and new price of each frame?

18. (47) Water flows into a swimming pool at a constant speed, as shown in the table below. What is the rate of change?

Time (minutes)	3	6	9	12
Volume (gallons)	12	24	36	48

19. (52) Write in point-slope form the equation of a line that has a slope of 3 and passes through point (2, 8).

20. (41) Determine whether the sequence below is an arithmetic sequence.

-7, -3, 1, 5, ...

If yes, find the common difference and the next two terms.

<p>1. $50 + 5n \leq 200$ -50 $\frac{5n \leq 150}{5}$ $n \leq 30$ The most he can spend per day is \$30.</p>	<p>6. $\frac{2x^3 + 3y^2 + 4x^2y - 3xy^3 - 2x^2y^2}{-1x^3 + 3y^2 + 2x^3y^2}$</p>
<p>2. $x < 0$, $-1.5(1.02)$ or $x > 0$, $+1.5(1.02)$ $x < 60 - 1.5(80 - 60)$ or $x > 60 + 1.5(80 - 60)$ $x < 60 - 30$ or $x > 60 + 30$ $x < 30$ or $x > 90$ No sales are less than 30 or more than 90. $\frac{2x^3}{8x} = \frac{2 \cdot x^2}{4} = \frac{x^2}{2}$ $x \neq 0$</p>	<p>7. $\frac{x^3}{y} \left(\frac{y^2}{x^2} + \frac{2y^3}{x} \right) = \frac{x^3y^2}{y^2x^2} + \frac{2x^3y^3}{yx} = xy^2 + 2x^2y^2$</p> <p>8. $\frac{1}{n^5} = \frac{n^5}{1} = n^5$</p>
<p>4. $65, 18, 69, 70, 74, 72, 75, 58, 68$ mean $\frac{671}{9} = 74.5$ median 71 mode no mode range 56 new mean $573 \div 8 = 71.625$</p>	<p>9. $3y^2 + y^3$ Standard form (powers in decreasing order) leading coefficient 1</p>
<p>5. New median 70.5, new range 18 $(2x^3y)^3 = 8x^9y^3$</p>	<p>10. $(3, 7)$, $(-2, 3)$ $m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{3 - 7}{-2 - 3} = \frac{-4}{-5} = \frac{4}{5}$</p>

<p>11. $x - 2y = -6 \rightarrow 2 - 4(2) = -6$ yes $3x + 2y = 12 \rightarrow 3(2) + 2(4) = 12$ no $(2, 4)$ is not a solution of the system</p>	<p>16. $y = -5m - 3$ $+3$ $\frac{10 = -5m}{-5} = -2$ $m = -2$</p>
<p>12. $m = \frac{1}{-2}$, $b = 1$ $y = -\frac{1}{2}x + 1$</p>	<p>17. $12 \times 0.45 = 5.40$ mark-up $12 + 5.40 = 17.40$ new price</p>
<p>13. $3\sqrt{64} = 4ft$</p>	<p>18. $\begin{array}{r} 3 \overline{) 12} \\ 6 \ 24 \\ 9 \ 36 \\ 12 \ 48 \end{array}$ rate of change = $\frac{12}{3} = 4 \text{ gal/min}$ Change in y Change in x</p>
<p>14. $\frac{3}{5} = \frac{x+2}{15}$ $5(x+2) = 3x+15$ $5x+10 = 3x+15$ $\frac{5x = 35}{5} = 7$ $x = 7$</p>	<p>19. $y - y_1 = m(x - x_1)$ $y - 8 = 3(x - 2)$</p>
<p>15. $15 + 10x = -5(-2x - 3)$ $15 + 10x = 10x + 15$ $\frac{15 = 15}{-10x} = -10x$ $x = \text{any real number}$</p>	<p>20. $-7, -3, 1, 5$ $+4, +4, +4$ Sequence is arithmetic Common difference is 4 Next 2 terms are 9 + 13</p>