Lesson 5: Solving Multi-Step Equations using the Distributive Property

Directions: Solve each equation and use a pencil to DRAW the object that corresponds with your answer. SHOW YOUR STEPS!!!

1. \(2(x + 7) = 28\)
   - If your answer is \(x = \frac{4}{3}\), draw the following ears.
   - If your answer is \(x = 7\), draw the following ears.

2. \(-5(1+2n) = 15\)
   - If your answer is \(n = 2\), draw long curly hair.
   - If your answer is \(n = -2\), draw long wavy hair.

3. \(20 = -4(3a - 2)\)
   - If your answer is \(a = 1\), draw the following hat on the top of the head.
   - If your answer is \(a = -1\), draw the following hat on the top of the head.

4. \(\frac{1}{3}(9x - 3) = -10\)
   - If your answer is \(x = -3\), draw the following earrings.
   - If your answer is \(x = -\frac{1}{3}\), draw the following earrings.

5. \(10(2x - 1) = 0\)
   - If your answer is \(x = \frac{1}{2}\), draw the following mouth that covers half of the face.
   - If your answer is \(x = 2\), draw the following mouth that covers half of the face.

6. \(6 = 6(2n - 5)\)
   - If your answer is \(n = \frac{11}{12}\), draw the following rectangular eyes.
   - If your answer is \(n = 3\), draw the following oval eyes.

7. \(.7 = 2(x - 5)\)
   - If your answer is \(x = 6\), draw the following eyebrows.
   - If your answer is \(x = \frac{17}{2}\), draw the following eyebrows.

8. \(-2(x + 7) = 28\)
   - If your answer is \(x = -21\), draw the following nose.
   - If your answer is \(x = 21\), draw the following nose.

9. \(12\left(\frac{m + \frac{1}{2}}{2}\right) = 24\)
   - If your answer is \(m = \frac{3}{4}\), draw a necklace around the neck.
   - If your answer is \(m = \frac{1}{2}\), draw a whistle around the neck.

10. \(21 = -7(2x - 1)\)
    - If your answer is \(x = -1\), draw vertical stripes on the shirt.
    - If your answer is \(x = 1\), draw horizontal stripes on the shirt.

11. \(-6(5 - 2x) = 18\)
    - If your answer is \(x = 3\), draw a football and goal post in the background.
    - If your answer is \(x = 4\), draw a soccer ball and goal post in the background.

12. \(10 = 4(3a + 2)\)
    - If your answer is \(a = \frac{4}{3}\), draw mud puddles in the background.
    - If your answer is \(a = \frac{5}{6}\), draw tufts of grass in the background.
Directions: Solve each equation and COLOR the object that corresponds with your answer. SHOW YOUR STEPS!!!

<table>
<thead>
<tr>
<th>Equation</th>
<th>Solution</th>
<th>Coloration Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>13. $7 = 2(x+5)$</td>
<td>(a) If your answer is $x = -\frac{3}{2}$, color the earrings green. (b) If your answer is $x = \frac{3}{2}$, color the earrings purple.</td>
<td></td>
</tr>
<tr>
<td>14. $-2(-2m+3) = 6$</td>
<td>(a) If your answer is $m = 3$, color the ears brown. (b) If your answer is $m = \frac{3}{4}$, color the ears yellow.</td>
<td></td>
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<tr>
<td>15. $-3 = -\frac{1}{2}(n - 6)$</td>
<td>(a) If your answer is $n = -12$, color the hair on the head yellow. (b) If your answer is $n = 12$, color the hair on the head red.</td>
<td></td>
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<tr>
<td>16. $7(1+2x) = -21$</td>
<td>(a) If your answer is $x = -2$, color the hat stripes black and white. (b) If your answer is $x = 2$, color the hat stripes black and blue.</td>
<td></td>
</tr>
<tr>
<td>17. $4 = -2\left(\frac{1}{2}x - 1\right)$</td>
<td>(a) If your answer is $x = -5$, outline the mouth in pink. (b) If your answer is $x = -2$, outline the mouth in red.</td>
<td></td>
</tr>
<tr>
<td>18. $\frac{2}{3}(x+6) = -2$</td>
<td>(a) If your answer is $x = -4$, outline the teeth in brown. (b) If your answer is $x = -9$, outline the teeth in black.</td>
<td></td>
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<tr>
<td>19. $21 = -7(2x - 1)$</td>
<td>(a) If your answer is $x = -1$, outline the nose in brown. (b) If your answer is $x = 1$, outline the nose in orange.</td>
<td></td>
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<tr>
<td>20. $\frac{1}{2}(-4a + 2) = 5$</td>
<td>(a) If your answer is $a = 1$, color the eyes green. (b) If your answer is $a = 3$, color the eyes blue.</td>
<td></td>
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<tr>
<td>21. $3(2 - x) = 12$</td>
<td>(a) If your answer is $x = -2$, color the eyebrows orange. (b) If your answer is $x = -3$, color the eyebrows red.</td>
<td></td>
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<tr>
<td>22. $\frac{1}{2}(2x + 4) = -10$</td>
<td>(a) If your answer is $x = -12$, color the face, neck, &amp; arms brown. (b) If your answer is $x = -14$, color the face, neck, &amp; arms yellow.</td>
<td></td>
</tr>
<tr>
<td>23. $-36 = -3(5 + m)$</td>
<td>(a) If your answer is $m = 7$, color the object around the neck orange. (b) If your answer is $m = -7$, color the object around the neck purple.</td>
<td></td>
</tr>
<tr>
<td>24. $-8(2x - 1) = 0$</td>
<td>(a) If your answer is $x = 2$, color the stripes on the shirt black &amp; blue. (b) If your answer is $x = -\frac{1}{2}$, color the stripes on the shirt black &amp; white.</td>
<td></td>
</tr>
<tr>
<td>25. $2 = -\frac{2}{3}(x - 6)$</td>
<td>(a) If your answer is $x = -3$, color the ball brown. (b) If your answer is $x = 3$, color the ball black &amp; white.</td>
<td></td>
</tr>
<tr>
<td>26. $5(1 - 2n) = -15$</td>
<td>(a) If your answer is $n = -2$, color the goal post brown. (b) If your answer is $n = 2$, color the goal post black.</td>
<td></td>
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<tr>
<td>27. $27\left(\frac{1}{3}x - \frac{1}{9}\right) = 10$</td>
<td>(a) If your answer is $x = \frac{13}{9}$, color the background green. (b) If your answer is $x = \frac{9}{17}$, color the background brown.</td>
<td></td>
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</tbody>
</table>

Artistic Tip: When you are done coloring, it looks nice to outline the major features using a black crayon or marker.