**NAME** _____     **DATE** _____
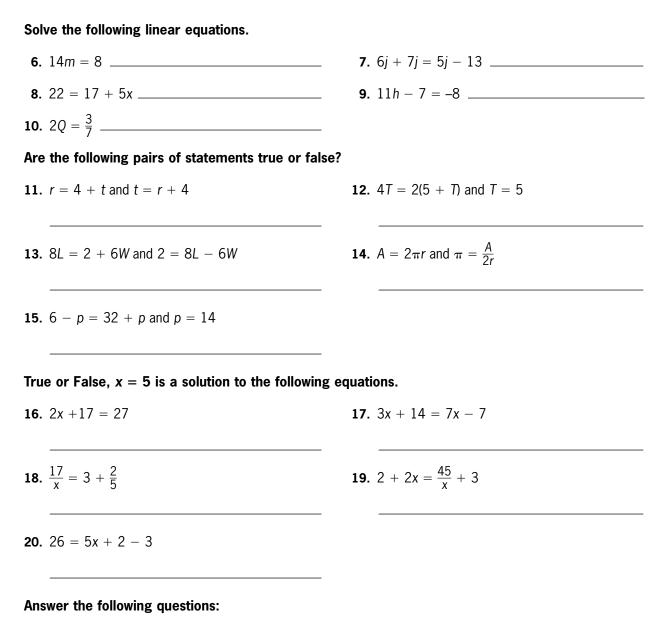
# Module Test A

1. **List the property of equality used in each step to solve the following problem.**

   $$7m + 6 = -5m + \frac{16}{2}$$    Given

   **a.** $14m + 12 = -10m + 16$    _____

   **b.** $24m + 12 = 16$    _____

   **c.** $\quad\;\; 24m = 4$    _____

   **d.** $\quad\;\; m = \frac{4}{24}$ or $\frac{1}{6}$    _____

2. **Solve the following equations by inspection.**

   **a.** $4x = 28$  _____    **b.** $b - 19 = 23$  _____

   **c.** $\frac{k}{2} = 14$  _____    **d.** $M + 12 = 55$  _____

3. **Rewrite the following equations for the requested variable.**

   **a.** $g = h + 3k$ for $k$  _____    **b.** $3Rj = k + 28$ for $j$  _____

   **c.** $V = \frac{1}{3}\pi r$ for r  _____    **d.** $6x + 7 = 8y$ for $x$  _____

4. **Determine if the following equations are one-step, two-step, or multi-step equations. Solve the equations to find the value of the variable.**

   **a.** $3m + 4m = -7m + 14$    **b.** $4j = 88$

   _____    _____

   **c.** $6Q = 2Q + 8$    **d.** $3R + R - 32 = 21 + 7R$

   _____    _____

5. **List the property of equality used below.**

   **a.** $16 = 16$    **b.** If $T = B$ and $B = C$, then $T = C$.

   _____    _____

   **c.** If $9 - y^2 = 3x$, then $3x = 9 - y^2$.    **d.** If $9 = 4 + 5$, then $\frac{9}{6} = \frac{4 + 5}{6}$.

   _____    _____

**Solve the following linear equations.**

**6.** $14m = 8$ _____

**7.** $6j + 7j = 5j - 13$ _____

**8.** $22 = 17 + 5x$ _____

**9.** $11h - 7 = -8$ _____

**10.** $2Q = \frac{3}{7}$ _____

**Are the following pairs of statements true or false?**

**11.** $r = 4 + t$ and $t = r + 4$

**12.** $4T = 2(5 + T)$ and $T = 5$

_____

_____

**13.** $8L = 2 + 6W$ and $2 = 8L - 6W$

**14.** $A = 2\pi r$ and $\pi = \frac{A}{2r}$

_____

_____

**15.** $6 - p = 32 + p$ and $p = 14$

_____

**True or False, $x = 5$ is a solution to the following equations.**

**16.** $2x + 17 = 27$

**17.** $3x + 14 = 7x - 7$

_____

_____

**18.** $\frac{17}{x} = 3 + \frac{2}{5}$

**19.** $2 + 2x = \frac{45}{x} + 3$

_____

_____

**20.** $26 = 5x + 2 - 3$

_____

**Answer the following questions:**

**16.** Explain why it is sometimes useful to rewrite the following formula: $P = 2l + 2w$

**17.** Give an example of the Transitive Property of Equality:

_____

_____

_____

_____

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