LESSON 91 ANSWERS ······························

1. A **2.** B **3.** B **4.** C **5.** A **6.** C

7. D **8.** C **9.** B **10.** B **11.** C **12.** D

13. A **14.** C **15.** B **16.** B **17.** D

Worked-out solutions to selected problems:

1. Simplify each side: $3x + 5 = 6x + 6$
Solve for x: $-3x + 5 = 6$
   $-3x = 1$
   $x = -\dfrac{1}{3}$

Find the answer: $3\left(-\dfrac{1}{3}\right) + 1 = 0$

4. $(x + 6)(x - 3)$
$= x^2 - 3x + 6x - 18$
$= x^2 + 3x - 18$

5. $\sqrt{4 \cdot 3} - \sqrt{3} = 2\sqrt{3} - \sqrt{3} = \sqrt{3}$

6. $16^{-2} = (2^4)^{-2} = 2^{-8} = \left(\dfrac{1}{2}\right)^8$

7. $a = \dfrac{1}{2} + 2 = \dfrac{5}{2}$

$b = \dfrac{1}{4} + 4 = \dfrac{17}{4}$

$a + 2b = \dfrac{5}{2} + 2\left(\dfrac{17}{4}\right) = \dfrac{22}{2} = 11$

9. $3^2 + 3^2 = x^2$
$x^2 = 18$
$x = \sqrt{18} = \sqrt{9 \cdot 2} = 3\sqrt{2}$

10. Kyle's car can drive 96/4 = 24 miles/gallon.
It can drive 24 × 3 = 72 miles on 3 gallons of gas.

11. 2 yards = 6 feet = 72 inches
She made 72/8 = 9 strips.

17. x = number of 6-point questions
y = number of 8-point questions
$6x$ = points from 6-point questions
$8y$ = points from 8-point questions
A total of 16 questions, so $x + y$ = 16.
Total points = 100, so $6x + 8y$ = 100.
Solve the system, and you get x = 14 and y = 2.
So $x{:}y$ = 14:2 = 7:1.