Algebra Worksheet

SAT Math

Name _____ Date _____

Warm-up

1. A gym charges $C = 63 + 19m$. What does 63 mean?
   (A) Total cost (B) Cost per month (C) Signup fee (D) Number of months

2. How many solutions: $y = 5x + 6$ and $y = 5x + 12$?
   (A) None (B) Two (C) One (D) Infinitely many

3. "At least 24 students" means...
   (A) $s \leq 24$ (B) $s < 24$ (C) $s \geq 24$ (D) $s > 24$

4. A gym charges $C = 23 + 11m$. What does 11 mean?
   (A) Number of months (B) Signup fee (C) Cost per month (D) Total cost

5. Solve: $y = 5x$ and $y = x + 36$. Find x.

Practice

6. A line passes through $(2, 11)$ and $(3, 14)$. What's its y-intercept?

7. $3x + 5y = 6$ and $9x + ky = 19$ has no solution. Find k.

8. You have scores 91 and 72. What do you need on a third test to average at least 72?

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9. Plan A: \$35 plus \$4 per GB. Plan B: \$11 plus \$6 per GB. At how many GB do they cost the same?

10. $3x + 4y = 8$ and $12x + 16y = k$ has infinitely many solutions. Find k.

11. An elevator holds 126 kg. A 69 kg person rides with 18 kg boxes. What's the most boxes?

12. A taxi costs $C = 6 + 4d$. A ride cost \$30. How many miles?

13. $x + y = 10$ and $x - y = 8$. Find x.

Challenge

14. $f(x) = 3x + b$ and $f(1) = 11$. Find $f(2)$.

15. 54 tickets sold. Adults \$11, kids \$5, total \$414. How many kids' tickets?

16. Boxes hold 22 items. What's the fewest boxes for 203 items?

17. A company's profit is $P = 5n - 130$. What does the n-intercept tell you?

    (A) The units needed to break even (B) The start-up cost (C) The price per unit (D) The maximum profit

18. A coin jar has dimes and quarters, 23 coins worth \$4.55. How many quarters?

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Algebra Worksheet: Answer Key

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1. (C) Signup fee

   It's the cost when $m = 0$.

2. (A) None

   Same slope and different intercepts: parallel.

3. (C) $s \geq 24$

   At least includes 24 and everything above.

4. (C) Cost per month

   It multiplies m.

5. 9

   Set them equal.

6. 5

   The slope is 3. Walk back to $x = 0$.

7. 15

   Multiply the first by 3: the y coefficient must match.

8. 53

   Total needed is 3×72.

9. 12

   $35 + 4g = 11 + 6g$.

10. 32

    The second must be 4 times the first.

11. 3

    $69 + 18n \leq 126$.

12. 6

    Subtract 6, then divide by 4.

13. 9

    Add them.

14. 14

    1 more steps, each worth 3: $11 + 3 \cdot 1$.

15. 30

    $x + y = 54$ and $11x + 5y = 414$.

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16. 10

    $203 \div 22$, and round up: a partial box still needs a box.

17. (A) The units needed to break even

    Where $P = 0$.

18. 15

    $0.10d + 0.25q = 4.55$ and $d + q = 23$.

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