LESSON MAKER PRO

Equation Escape

Use inverse operations to isolate x.

GRADE 7 · 7.PFA.3.b

7.PFA.3.b "Apply properties of real numbers and properties of equality to solve two-step linear equations in one variable. Coefficients and numeric terms will be rational."

NAME _____ DATE _____

KEEP IT BALANCED

Use inverse operations to undo addition or subtraction first. Then undo multiplication or division. Do the same operation to both sides so the equation stays balanced.

WORKED EXAMPLE

Solve: 9x - 14 = 31

1. Add 14 to both sides.
2. 9x = 45
3. Divide both sides by 9.

Answer: x = 5

PRACTICE 6 problems

1 Solve: 2x + 6 = 18

ANSWER _____

2 Solve: -3x + 2 = 20

ANSWER _____

3 Solve: (2/3)x - 1 = 7

ANSWER _____

4 Solve: 0.5x + 1.5 = 6.5

ANSWER _____

5 Solve: x/6 + 1 = 4

ANSWER _____

6 Solve: -4x - 2 = 22

ANSWER _____

APPLY IT Show your work

1 A game club charges $3 to join a tournament and $2 for each special challenge round. Maya paid $15. How many special challenge rounds did she buy?

WORK SPACE

ANSWER _____

2 A music app gift card starts with $12. Each song download costs $1.25. After buying some downloads, the card has $2 left. How many songs did the student download?

WORK SPACE

ANSWER _____

CHALLENGE One step up

Solve: (4/7)x - 1/7 = 15/7

WORK SPACE AND ANSWER

ANSWER KEY

Equation Escape

GRADE 7 · 7.PFA.3.b

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Solve: 2x + 6 = 18	**x=6**
2	Solve: -3x + 2 = 20	**x = -6**
3	Solve: (2/3)x - 1 = 7	**x = 12**
4	Solve: 0.5x + 1.5 = 6.5	**x = 10**
5	Solve: x/6 + 1 = 4	**x = 18**
6	Solve: -4x - 2 = 22	**x = -6**

PART 2 · APPLY IT

1. **6 special challenge rounds** Write 2x + 3 = 15. Subtract 3, then divide by 2 to get x = 6.
2. **8 songs** Write 12 - 1.25x = 2. Subtract 12, then divide by -1.25 to get x = 8.

CHALLENGE

x=4

Accept any correct equivalent equation work that keeps both sides balanced. For word problems, accept the numerical answer only when it includes the correct unit.