MULTIPLE CHOICE

1. Find the *x*-intercept of the line: $y = -\frac{3}{7}x + \frac{26}{7}$.

   Leave your answer in fractional form.

   a. $\frac{26}{7}$ c. $\frac{11}{7}$

   b. $\frac{26}{3}$ d. $-\frac{26}{3}$

   ANS: B
   The *x*-intercept is where $y = 0$.

   $$0 = -\frac{3}{7}x + \frac{26}{7}$$

   This is a two-step equation.

   $$-\frac{3}{7}x = -\frac{26}{7}$$

   $$x = (-\frac{26}{7})\cdot(-\frac{7}{3})$$

   $$x = \frac{26}{3}$$

   PTS: 1 DIF: Grade 8 REF: 1AL2.4
   OBJ: Solve multi-step problems, including word problems, involving linear equations and linear inequalities in one variable and provide justification for each step.
   STA: CA.1ALG1.6
   LOC: Students graph a linear equation and compute the x- and y- intercepts (e.g., graph 2x + 6y = 4). They are also able to sketch the region defined by linear inequality (e.g., they sketch the region defined by 2x + 6y < 4). TOP: Algebra 1 KEY: lines | x-intercept | intercepts | slope-intercept

2. Find the x-intercept of the line: $y = -\frac{4}{3}x - \frac{20}{3}$.

   Round your answer to two decimal places.

   a. –6.67
   b. –8.89
   c. –5
   d. 5

   ANS: C

   The x-intercept is where $y = 0$.

   $$0 = -\frac{4}{3}x - \frac{20}{3}$$

   This is a two-step equation.

   $$-\frac{4}{3}x = +\frac{20}{3}$$

   $$x = (+\frac{20}{3})\cdot(-\frac{3}{4})$$

   $$x = -5$$

   PTS: 1 DIF: Grade 8 REF: 1AL2.4
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   STA: CA.1ALG1.6
   LOC: Students graph a linear equation and compute the x- and y- intercepts (e.g., graph $2x + 6y = 4$). They are also able to sketch the region defined by linear inequality (e.g., they sketch the region defined by $2x + 6y < 4$). TOP: Algebra 1 KEY: lines | x-intercept | intercepts | slope-intercept

3. Find the x-intercept of the line: $6x + 4y = 6$.
Round your answer to the nearest hundredth.

a. 1
b. 6
c. –1
d. 1.5

ANS: A
The x-intercept is where $y = 0$.

$$6x + 4 \cdot 0 = 6$$
$$6x = 6$$
$$x = \frac{6}{6}$$
$$x = 1$$

	Feedback
A	Correct!
B	You forgot to divide by the x coefficient.
C	You have the wrong sign.
D	This is the y-intercept.

PTS: 1 DIF: Grade 8 REF: 1AL2.4
OBJ: Solve multi-step problems, including word problems, involving linear equations and linear inequalities in one variable and provide justification for each step.
STA: CA.1ALG1.6
LOC: Students graph a linear equation and compute the x- and y- intercepts (e.g., graph 2x + 6y = 4). They are also able to sketch the region defined by linear inequality (e.g., they sketch the region defined by 2x + 6y < 4). TOP: Algebra 1 KEY: lines | intercepts | linear functions | standard form

4. Find the y-intercept form of the line: $-9x - 4y = -1$.
   Round your answer to the nearest hundredth.

   a. 0.25
   b. –1
   c. –0.25
   d. 0.11

   ANS: A
   The y-intercept is where $x = 0$.

$$-9 \cdot 0 - 4y = -1$$
$$-4y = -1$$
$$y = \frac{-1}{-4}$$
$$y = 0.25$$

	Feedback
A	Correct!
B	You forgot to divide by the y coefficient.
C	You have the wrong sign.
D	This is the x-intercept.

PTS: 1 DIF: Grade 8 REF: 1AL2.4
OBJ: Solve multi-step problems, including word problems, involving linear equations and linear inequalities in one variable and provide justification for each step.
STA: CA.1ALG1.6
LOC: Students graph a linear equation and compute the x- and y- intercepts (e.g., graph 2x + 6y = 4). They are also able to sketch the region defined by linear inequality (e.g., they sketch the region defined by 2x + 6y < 4). TOP: Algebra 1 KEY: lines | intercepts | linear functions | standard form