IP Independent Practice

# Direct Variation

H.W.

Name:

**Computations and Algebraic Relationships**

TEKS 8.5E Supporting

**1** If $y$ varies directly with $x$, and $y$ is 4 when $x = \frac{1}{2}$, what is the constant of variation?

**A** 2
**B** 8
**C** 16
**D** −8

**2** If $y$ is directly proportional to $x$, and $y = 15$ when $x = 6$, what is the value of $x$ when $y = 24$?

**A** 9.6
**B** 60
**C** 6
**D** 15

**3** If $y$ is directly proportional to $x$, and $y = 6$ when $x = 8$, what is the value of $x$ when $y = 16$?

**A** $-21\frac{1}{3}$
**B** 12
**C** 2
**D** $21\frac{1}{3}$

**4** If $y$ varies directly with $x$, and $y$ is 96 when $x = -\frac{1}{2}$, what is the constant of variation?

**A** −48
**B** 192
**C** 48
**D** −192

**5** If $x$ and $y$ vary directly, and $x = \frac{1}{2}$ when $y = 36$, which of the following represents this situation?

**A** $y = 72x$
**B** $y = 18x$
**C** $xy = 18$
**D** $xy = 72$

**6** Josephine owns a movie theater. She makes $4 for every $8.75 ticket sold. If she sold 60 tickets to a movie, how much money did she make?

**A** $35.00
**B** $240.00
**C** $285.00
**D** $525.00

**7** Val walks $\frac{1}{2}$ mile for every $\frac{3}{4}$ of a mile she runs. If Val walked 2 miles, how many miles did she run?

**A** 1 miles
**B** 2 miles
**C** $1\frac{3}{4}$ miles
**D** 3 miles

8 Julio measured the amount of water that flows from his shower head during normal use. He found that his shower head used 21 gallons of water in 3 minutes. If the amount of water used varies directly with the amount of time spent showering, approximately how much water would be used during a 21 minute shower?

**A** 3 gallons
**B** 39 gallons
**C** 63 gallons
**D** 147 gallons

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9 Mohammed kept track of the yearly sales for his company and recorded the data in the following table.

| Sales ($) | Year |
|---|---|
| 140,000 | 2 |
| 210,000 | 3 |
| 350,000 | 5 |

If Mohammed's company continues to grow at the same rate, what is the year in which his company will have in excess of $1,000,000 in sales?

**A** 14
**B** 15
**C** 18
**D** 20

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If $y$ is directly proportional to $x$, and $y = 46$ when $x = 4$, what is the value of $x$ when $y = 23$?

**A** −2
**B** 2
**C** 11.5
**D** 92

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! If $x$ and $y$ vary directly, and $x = 2$ when $y = 24$, which of the following represents this situation?

**A** $xy = 24$
**B** $y = 48x$
**C** $y = 12x$
**D** $xy = 48$